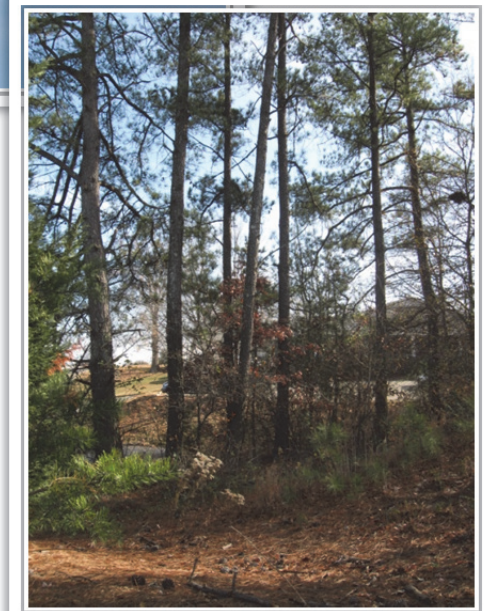


*FINAL*  
**ENVIRONMENTAL ASSESSMENT**  
**ADDRESSING TREE MANAGEMENT**  
**AT**  
**DOBBINS AIR RESERVE BASE, GEORGIA**



**SEPTEMBER 2013**

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>07 DEC 2013</b>		2. REPORT TYPE <b>Final</b>		3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>Final Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>United States Air Force Air Force Reserve Command 94th Airlift Wing</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>SAR</b>	18. NUMBER OF PAGES <b>150</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## ABBREVIATIONS AND ACRONYMS

µg/m <sup>3</sup>	Micrograms per cubic meter	EO	Executive Order
700 AS	700th Airlift Squadron	ESA	Endangered Species Act
ACHP	Advisory Council on Historic Preservation	FAA	Federal Aviation Administration
AFI	Air Force Instruction	FEMA	Federal Emergency Management Agency
AFP-6	Air Force Plant-6	FIRM	Flood Insurance Rate Map
AFRC	Air Force Reserve Command	FONPA	Finding of No Practicable Alternative
AICUZ	Air Installation Compatible Use Zone	FONSI	Finding of No Significant Impact
APZ	Accident Potential Zone	FY	Fiscal Year
AQCR	Air Quality Control Region	FPPA	Farmland Protection Policy Act
ARB	Air Reserve Base	GAARNG	Georgia Army National Guard
AST	aboveground storage tank	GADNR	Georgia Department of Natural Resources
BMP	best management practice	GHG	Greenhouse Gas
CAA	Clean Air Act	HAER	Historic American Engineering Record
CCMWA	Cobb County-Marietta Water Authority	HAP	Hazardous Air Pollutant
CCWS	Cobb County Water System	HUD	Department of Housing and Urban Development
CEQ	Council on Environmental Quality	I	Interstate
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
CFR	Code of Federal Regulations	IRP	Installation Restoration Program
CO	carbon monoxide	JP-8	jet propulsion number 8
CO <sub>2</sub>	carbon dioxide	mg/m <sup>3</sup>	milligrams per cubic meter
CWA	Clean Water Act	MGD	million gallons per day
dba	A-weighted decibel	MSL	Mean Sea Level
DN	Dobbins northern forest compartment	NAAQS	National Ambient Air Quality Standards
DNL	Day-Night Average Sound Level	NANSR	Nonattainment Major NSR
DOD	Department of Defense	NEPA	National Environmental Policy Act
DS	Dobbins southern forest compartment	NHPA	National Historic Preservation Act
EA	Environmental Assessment		
EIS	Environmental Impact Statement		

*continued on inside of back cover →*

←continued from inside of front cover

NO <sub>2</sub>	nitrogen dioxide	ROI	Region of Influence
NO <sub>x</sub>	oxides of nitrogen	SHPO	State Historic Preservation Officer
NPDES	National Pollutant Discharge Elimination System	SIP	State Implementation Plan
NRHP	National Register of Historic Places	SO <sub>2</sub>	sulfur dioxide
NSR	New Source Review	SPCC	Spill Prevention, Control and Countermeasure Plan
O <sub>3</sub>	ozone	SSPP	Strategic Sustainability Performance Plan
OSHA	Occupational Safety and Health Administration	SWPPP	Storm Water Pollution Prevention Plan
Pb	lead	TMDL	Total Maximum Daily Load
P.L.	Public Law	TSCA	Toxic Substances Control Act
PM <sub>10</sub>	particulate matter equal to or less than 10 microns in diameter	tpy	tons per year
PM <sub>2.5</sub>	particulate matter equal to or less than 2.5 microns in diameter	USAF	U.S. Air Force
percent g	force of gravity	USACE	U.S. Army Corps of Engineers
POL	petroleum, oil, and lubricants	U.S.C.	United States Code
ppb	parts per billion	USEPA	U.S. Environmental Protection Agency
ppm	parts per million	USFWS	U.S. Fish and Wildlife Service
PSD	Prevention of Significant Deterioration	UST	underground storage tank
RCRA	Resource Conservation and Recovery Act	VOC	Volatile organic compound
		WWTP	wastewater treatment plant





# **FINDING OF NO SIGNIFICANT IMPACT (FONSI)/ FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)**

## **ENVIRONMENTAL ASSESSMENT ADDRESSING TREE MANAGEMENT AT DOBBINS AIR RESERVE BASE, GEORGIA**

---

Pursuant to the Council on Environmental Quality's (CEQ's) regulations for implementing procedural provisions of the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1508), 32 CFR Part 989, the Air Force Reserve Command (AFRC) has prepared an Environmental Assessment (EA) for tree management at Dobbins Air Reserve Base (ARB), Georgia. The EA is incorporated by reference into this Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA).

### **INTRODUCTION**

The AFRC is proposing to manage tree obstructions to preserve flight safety at Dobbins ARB, through tree felling or trimming. To identify natural obstructions around Dobbins ARB, a *Tree Management Plan to Manage Tree Obstructions at Dobbins ARB* was completed in 2012. This Plan updated the airfield obstruction data and mapping products in support of airfield operations. Some of the trees requiring management are on private property and have grown to a height that adversely affects safe airfield operations and flight safety at the airfield. To manage the tree obstructions, land access agreements or enforcement of county zoning ordinances could be required.

### **PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

The purpose of the Proposed Action is to manage tree obstructions at Dobbins ARB in accordance with Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1. Within this regulation, the Federal Aviation Administration (FAA) established imaginary surfaces to determine whether an object is an obstruction to air navigation. Flight path obstructions within the airfield, and those located at distances beyond the runway should be managed to reduce the risk of an accident.

The need for the Proposed Action is to preserve flight safety at Dobbins ARB and allow the installation to maintain their flying mission. Height obstructions can compromise the ability of aircraft to land safely, particularly in adverse weather conditions or during military training operations. Flight path obstructions pose risks to pilot safety and the welfare of populations on and adjacent to the installation.

### **DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

**Proposed Action.** The Proposed Action consists of managing tree obstructions to preserve flight safety at Dobbins ARB. Trees that are considered obstructions to air navigation have grown to a height that exceeds the limits of the primary surface, clear zone surface, approach-departure clearance surface, and the transitional surface at Dobbins ARB. The Proposed Action will preserve flight safety at Dobbins ARB, which will enhance pilot safety, protect the welfare of adjacent populations, and allow the installation to maintain their flying mission. Trees that require management are on private property surrounding the installation and on Dobbins ARB property. As a result, tree management zones were established from the data identified in the *Tree Management Plan*. These zones include the following:

- Dobbins ARB Property
- Approach Zone on the West End
- Approach Zone on the East End
- Transitional Zone on the West Approach
- Transitional Zone on the East Approach.

Tree management on Dobbins ARB Property will occur within 46 acres along the north and south sides of the runway. The Approach Zone on the West End includes 36.2 acres outside of Department of Defense (DOD) property west of Runway 11. The Approach Zone on the East End includes 20.6 acres outside of DOD property east of Runway 29. The Transitional Zone on the West Approach includes 2.2 acres outside of DOD property, generally north and south of the Approach Zone on the West End. The Transitional Zone on the East Approach includes 4.1 acres outside of DOD property, generally north and south of the Approach Zone on the East End.

There are two different methods that could be used to manage tree obstructions: tree felling or tree trimming. Tree felling consists of taking down target trees by hand with manual chainsaws or with machines. Once the trees are cut, the logs and debris will be assembled in a loading zone until they are removed. After the logs and debris are removed, the loading zone will be regraded, seeded, or mulched, as necessary. In addition, erosion-control barriers will be used, if needed. Where optimal working conditions occur, soil disturbance will be completely avoided.

Tree trimming involves identifying the target trees in the field, determining the height that requires cutting, climbing each tree, and then removing a portion of the tree. Once the tops fall to the ground, chainsaws are used to cut the logs into smaller pieces. In forested areas, the debris might be scattered; in nonforested areas the debris will be removed.

**No Action Alternative.** Under the No Action Alternative, Dobbins ARB would continue to manage trees that are considered obstructions to air navigation within segments of the primary surface, approach-departure surface, transitional surface, and clear zones at the airfield. Although tree management occurs now, it is limited to those properties with existing real estate agreements. Tree management would not be comprehensive since it would not occur in all of the areas within the primary surface, approach-departure surface, transitional surface, and clear zones. Therefore, trees that are considered obstructions, or will soon become obstructions, would remain in the areas without real estate agreements. As a result, flight safety could be compromised. If tree obstructions were not comprehensively managed, future aircraft arrivals and departures could be jeopardized if the USAF or FAA determined that waivers would no longer be granted because of violations to the Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1. Tree obstructions could also become a safety concern to the extent that the installation would be compelled to suspend flight operations. Consequently, the installation might be unable to fulfill its flying mission and the welfare of populations on and adjacent to the installation could be impacted.

#### **SUMMARY OF ANTICIPATED ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED ACTION AND THE NO ACTION ALTERNATIVE**

In compliance with NEPA, CEQ guidelines, and 32 CFR Part 989, the evaluation of potential environmental impacts presented in the EA focuses on those resources and conditions potentially subject to impacts and on potentially significant environmental issues deserving of study, and deemphasizes insignificant issues. The environmental resources that were analyzed in this EA includes air quality, noise, land use, geological resources, water resources, biological resources, cultural resources, infrastructure, hazardous materials and wastes, safety, and socioeconomics and environmental justice.

Implementation of the Proposed Action will result in short- and long-term, negligible to moderate, adverse impacts on air quality, noise, land use, geological resources, water resources, biological resources, infrastructure, hazardous materials and wastes, and socioeconomics and environmental justice within the tree management zones. Long-term, negligible to moderate beneficial impacts on land use, infrastructure, and socioeconomics and environmental justice will also result from implementing the Proposed Action. No impacts will occur on cultural resources or human health and safety concerns from the Proposed Action within the tree management zones. In addition, no significant cumulative impacts will occur under the Proposed Action.

Under the No Action Alternative, Dobbins ARB would continue to manage trees that are considered obstructions to air navigation in the tree management zones, but tree management would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Impacts on resource areas would be similar to those described under the Proposed Action, but would occur over a smaller area. No significant impacts on environmental resources would be expected based on analyses addressing the No Action Alternative.

#### **PUBLIC REVIEW AND INTERAGENCY COORDINATION**

AFRC initiated the Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) process for the Proposed Action on April 11, 2013, in accordance with USAF policy. A public notice announcing the availability of the Final Description of the Proposed Action and Alternatives has been published in the local newspaper. A 30-day public and agency review of the Description of the Proposed Action and Alternatives for this EA was previously conducted.

A Notice of Availability (NOA) for this EA was published in the local newspaper. The published NOA solicits comments on the Proposed Action and is intended to involve the local community in the decisionmaking process. A public meeting was conducted at the Cobb County Central Library on July 31, 2013 to involve the local community further. Public and agency comments on the Draft EA were considered prior to a decision made as to whether or not to sign a FONSI/FONPA.

#### **FINDING OF NO PRACTICABLE ALTERNATIVE**

It is USAF policy to avoid activities within areas containing wetlands and floodplains, where practicable. However, the Proposed Action would directly impact wetlands and the 100-year floodplain. Reasonable alternatives were considered; however, there are no practicable alternatives to this project because implementing tree management to preserve flight safety precludes the selection of any practicable alternatives. Wetland and floodplain impacts are reduced to the maximum extent possible through project design and implementation of environmental protection measures.

Pursuant to Air Force Instruction 32-7064, *Integrated Natural Resources Management*, Executive Orders 11988, *Floodplain Management*, and 11990, *Protection of Wetlands*, and the authority delegated by Secretary of the Air Force Order 791.1, *Environment*, and taking the above information into account, I find that there is no practicable alternative to this action and that the Proposed Action includes all practicable measures to minimize harm to the environment. This decision has been made after taking into account all submitted information, and considering a full range of practical alternatives that would meet project requirements and are within the legal authority of the USAF.

  
\_\_\_\_\_  
ROY-ALAN C. AGUSTIN, Colonel, USAF  
The AFRC Civil Engineer

7 DECEMBER 2013  
Date

**FINDING OF NO SIGNIFICANT IMPACT**

I conclude that the environmental effects of tree management at Dobbins ARB are not significant, that preparation of an Environmental Impact Statement is unnecessary, and that a FONSI is appropriate. The preparation of the EA is in accordance with NEPA, CEQ regulations, and 32 CFR Part 989, as amended and is herein incorporated by reference.



---

BRETT J. CLARK, Colonel, USAFR  
Commander

18 Dec 13

---

Date

Attachment: Environmental Assessment



**COVER SHEET**  
**FINAL**  
**ENVIRONMENTAL ASSESSMENT ADDRESSING TREE MANAGEMENT**  
**AT DOBBINS AIR RESERVE BASE, GEORGIA**

**Responsible Agencies:** The Air Force Reserve Command (AFRC) and the 94th Airlift Wing at Dobbins Air Reserve Base (ARB), Georgia.

**Affected Location:** Dobbins ARB.

**Proposed Action:** Manage tree obstructions to preserve flight safety.

**Report Designation:** Final Environmental Assessment (EA).

**Abstract:** The AFRC is proposing to manage tree obstructions to preserve flight safety at Dobbins ARB, through tree felling or trimming. The purpose of the Proposed Action is to manage tree obstructions at Dobbins ARB in accordance with Federal Aviation Regulation Part 77 and United Facilities Criteria 3-260-1. The need for the Proposed Action is to preserve flight safety at Dobbins ARB and allow the installation to maintain their flying mission.

To identify natural obstructions around Dobbins ARB, a *Tree Management Plan to Manage Tree Obstructions at Dobbins ARB* was completed in 2012 (Dobbins ARB 2012b). This Plan updated the airfield obstruction data and mapping products in support of airfield operations. Some of the trees requiring management are on private property and have grown to a height that adversely affects safe airfield operations and flight safety at the airfield. To manage the tree obstructions, land access agreements or enforcement of county zoning ordinances could be required.

Tree management zones have been established and are evaluated in the EA. These zones include the following:

- Dobbins ARB Property
- Approach Zone on the West End
- Approach Zone on the East End
- Transitional Zone on the West Approach
- Transitional Zone on the East Approach.

Under the No Action Alternative, Dobbins ARB would continue to manage trees on properties where the U.S. Air Force (USAF) owns the property or earlier acquired a property interest to meet operational and safety requirements. However, such tree management would be limited to segments of the primary surface, approach-departure surface, transitional surface, and the clear zone. As a result, the installation's ability to operate aircraft safely could be impacted, thereby increasing the risks imposed on the installation and the surrounding community.

This EA has been prepared to evaluate the Proposed Action the No Action Alternative, and to aid in determining whether a Finding of No Significant Impact (FONSI)/ Finding of No Practicable Alternative (FONPA) can be prepared or whether a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) is needed. Resource areas that were considered in the impacts analysis are noise, land use, air quality, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, infrastructure, hazardous materials and waste management, and safety.



*FINAL*

**ENVIRONMENTAL ASSESSMENT  
ADDRESSING TREE MANAGEMENT  
AT  
DOBBINS AIR RESERVE BASE, GEORGIA**

---

**HEADQUARTERS AIR FORCE RESERVE COMMAND  
ROBINS AIR FORCE BASE, GEORGIA**

**SEPTEMBER 2013**





**FINAL**  
**ENVIRONMENTAL ASSESSMENT ADDRESSING TREE MANAGEMENT**  
**AT DOBBINS AIR RESERVE BASE, GEORGIA**

**TABLE OF CONTENTS**

**ABBREVIATIONS AND ACRONYMS.....INSIDE FRONT AND BACK COVERS**  
**COVER SHEET**

<b>1. PURPOSE, NEED, AND SCOPE.....</b>	<b>1-1</b>
1.1. INTRODUCTION.....	1-1
1.2. BACKGROUND.....	1-1
1.3. PURPOSE OF AND NEED FOR THE PROPOSED ACTION.....	1-3
1.4. SCOPE OF THE ANALYSIS.....	1-3
1.5. SUMMARY OF KEY ENVIRONMENTAL COMPLIANCE REQUIREMENTS.....	1-4
1.5.1. National Environmental Policy Act.....	1-4
1.5.2. Integration of Other Environmental Statutes and Regulations.....	1-6
1.6. PUBLIC INVOLVEMENT AND AGENCY CONSULTATION.....	1-6
<b>2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES .....</b>	<b>2-1</b>
2.1. PROPOSED ACTION.....	2-1
2.2. SELECTION CRITERIA.....	2-3
2.3. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS.....	2-3
2.4. NO ACTION ALTERNATIVE.....	2-3
2.5. DECISION TO BE MADE AND IDENTIFICATION OF THE PREFERRED ALTERNATIVE.....	2-4
<b>3. AFFECTED ENVIRONMENT .....</b>	<b>3-1</b>
3.1. AIR QUALITY.....	3-1
3.1.1. Definition of the Resource.....	3-1
3.1.2. Affected Environment.....	3-3
3.2. NOISE.....	3-4
3.2.1. Definition of the Resource.....	3-4
3.2.2. Affected Environment.....	3-6
3.3. LAND USE.....	3-7
3.3.1. Definition of the Resource.....	3-7
3.3.2. Affected Environment.....	3-8
3.4. GEOLOGICAL RESOURCES.....	3-10
3.4.1. Definition of the Resource.....	3-10
3.4.2. Affected Environment.....	3-12
3.5. WATER RESOURCES.....	3-13
3.5.1. Definition of the Resource.....	3-13
3.5.2. Affected Environment.....	3-17
3.6. BIOLOGICAL RESOURCES.....	3-19
3.6.1. Definition of the Resource.....	3-19
3.6.2. Affected Environment.....	3-20
3.7. CULTURAL RESOURCES.....	3-23
3.7.1. Definition of the Resource.....	3-23
3.7.2. Affected Environment.....	3-26
3.8. INFRASTRUCTURE.....	3-27
3.8.1. Definition of the Resource.....	3-27

**TABLE OF CONTENTS (CONTINUED)**

3.8.2. Affected Environment .....	3-27
3.9. HAZARDOUS MATERIALS AND WASTES .....	3-31
3.9.1. Definition of the Resource .....	3-31
3.9.2. Affected Environment .....	3-31
3.10. SAFETY .....	3-32
3.10.1. Definition of the Resource .....	3-32
3.10.2. Affected Environment .....	3-32
3.11. SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE .....	3-33
3.11.1. Definition of the Resource .....	3-33
3.11.2. Affected Environment .....	3-34
<b>4. ENVIRONMENTAL CONSEQUENCES .....</b>	<b>4-1</b>
4.1. AIR QUALITY .....	4-1
4.1.1. Evaluation Criteria .....	4-1
4.1.2. Proposed Action .....	4-4
4.1.3. No Action Alternative .....	4-5
4.2. NOISE .....	4-6
4.2.1. Evaluation Criteria .....	4-6
4.2.2. Proposed Action .....	4-6
4.2.3. No Action Alternative .....	4-8
4.3. LAND USE .....	4-8
4.3.1. Evaluation Criteria .....	4-8
4.3.2. Proposed Action .....	4-8
4.3.3. No Action Alternative .....	4-9
4.4. GEOLOGICAL RESOURCES .....	4-9
4.4.1. Evaluation Criteria .....	4-9
4.4.2. Proposed Action .....	4-9
4.4.3. No Action Alternative .....	4-10
4.5. WATER RESOURCES .....	4-10
4.5.1. Evaluation Criteria .....	4-10
4.5.2. Proposed Action .....	4-10
4.5.3. No Action Alternative .....	4-13
4.6. BIOLOGICAL RESOURCES .....	4-14
4.6.1. Evaluation Criteria .....	4-14
4.6.2. Proposed Action .....	4-14
4.6.3. No Action Alternative .....	4-19
4.7. CULTURAL RESOURCES .....	4-19
4.7.1. Evaluation Criteria .....	4-19
4.7.2. Proposed Action .....	4-20
4.7.3. No Action Alternative .....	4-20
4.8. INFRASTRUCTURE .....	4-20
4.8.1. Evaluation Criteria .....	4-20
4.8.2. Proposed Action .....	4-20
4.8.3. No Action Alternative .....	4-21
4.9. HAZARDOUS MATERIALS AND WASTES .....	4-22
4.9.1. Evaluation Criteria .....	4-22
4.9.2. Proposed Action .....	4-22
4.9.3. No Action Alternative .....	4-22
4.10. SAFETY .....	4-23

4.10.1. Evaluation Criteria .....	4-23
4.10.2. Proposed Action .....	4-23
4.10.3. No Action Alternative .....	4-24
4.11. SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE .....	4-24
4.11.1. Evaluation Criteria .....	4-24
4.11.2. Proposed Action .....	4-24
4.11.3. No Action Alternative .....	4-25
<b>5. CUMULATIVE AND OTHER POTENTIAL ADVERSE IMPACTS .....</b>	<b>5-1</b>
5.1. CUMULATIVE EFFECTS .....	5-1
5.1.1. Projects Identified for Potential Cumulative Effects .....	5-1
5.1.2. Resource-Specific Cumulative Effects .....	5-3
5.2. UNAVOIDABLE ADVERSE EFFECTS .....	5-7
5.3. COMPATIBILITY OF THE PROPOSED ACTION AND ALTERNATIVES WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS .....	5-7
5.4. RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG- TERM PRODUCTIVITY .....	5-7
5.5. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES .....	5-8
<b>6. LIST OF PREPARER'S .....</b>	<b>6-1</b>
<b>7. REFERENCES .....</b>	<b>7-1</b>

## APPENDICES

- A. Interagency and Intergovernmental Coordination for Environmental Planning, Native American Tribal Consultation, and Public Involvement Correspondence**
- B. Height Obstruction Criteria**
- C. Air Quality Calculation**

## FIGURES

1-1. Dobbins ARB Vicinity Map.....	1-2
1-2. Tree Management Zones.....	1-5
2-1. Typical Stand of Trees within the Approach Zone on the East End.....	2-2
3-1. Dobbins ARB Land Use Map.....	3-9
3-2. Existing Off-Installation Vicinity Land Use Map.....	3-11
3-3. Soils Map.....	3-16
3-4. Water Resources in the Project Area.....	3-18
3-5. Forest Stands on Dobbins ARB.....	3-21
3-6. Transportation Map.....	3-29
3-7. Socioeconomic and Environmental Justice Region of Influence for the Proposed Action.....	3-35

## TABLES

1-1. Summary of Potentially Applicable Statutes and Regulations.....	1-7
3-1. National and State Ambient Air Quality Standards.....	3-2
3-2. Local and Regional Air Emissions Inventories for Areas Impacted by the Proposed Action (2008).....	3-4
3-3. Sound Levels and Human Response.....	3-5
3-4. Predicted Noise Levels for Construction and Tree Management Equipment.....	3-7
3-5. Soil Description Criteria.....	3-12
3-6. Soil Characteristics in the Vicinity of Dobbins ARB.....	3-14
3-7. Federal- and State-listed Species with Potential to Occur in the Project Area.....	3-24
3-8. Population Data for 2000 and 2010.....	3-36
3-9. Overview of Employment by Industry, 2011.....	3-37
3-10. Housing Characteristics by Spatial Levels.....	3-38
3-11. Minority, Low-Income, and Poverty Status, 2010.....	3-38
4-1. General Conformity <i>de minimis</i> Emissions Thresholds.....	4-3
4-2. Estimated Air Emissions Resulting from Tree Management Activities.....	4-5
4-3. Estimated Noise Levels from Tree Management Activities.....	4-6

# 1. PURPOSE, NEED, AND SCOPE

The Air Force Reserve Command (AFRC) is proposing to manage tree obstructions to preserve flight safety at Dobbins Air Reserve Base (ARB). The Proposed Action would manage trees, through removal or trimming, that are considered obstructions to air navigation on and off Dobbins ARB property. To manage these obstructions, the U.S. Air Force (USAF) might need to pursue land access agreements, such as rights-of-entry or avigation easements, if the USAF determines that the enforcement of county zoning ordinances would not be an effective management technique.

## 1.1. Introduction

Dobbins ARB consists of 1,664 acres in Cobb County in northwestern Georgia, about 16 miles northwest of the City of Atlanta (see **Figure 1-1**). The 94th Airlift Wing is the host unit at Dobbins ARB and provides operational, logistical, and safety support to local and regional units under its command. The peacetime mission of the 94th Airlift Wing is to recruit and train reservists, while its wartime mission is to provide combat-ready support to the U.S. Air Mobility Command. Other tenant units at Dobbins ARB include the Georgia Army National Guard, Georgia Air National Guard, Navy Operational Support Center, and the U.S. Army Reserve. The General Lucius D. Clay National Guard Center is adjacent to the installation on the south and west sides. Additionally, Air Force Plant-6 (AFP-6), operated by Lockheed Martin Aeronautical Systems Corporation, is adjacent to and collocated with the installation. This facility supports the manufacture of the C-130J *Hercules* and performs maintenance on the C-5 *Galaxy* among other aircraft. As such, Dobbins ARB is one of the largest multi-service reserve training installations in the world with an economic impact on the surrounding area valued at more than \$318 million (Dobbins ARB 2012a). This amount includes the annual payroll for military personnel and civilians; annual expenditures for construction, services, and other expenditures; and the estimated value of jobs that were created.

## 1.2. Background

In the United States, airports operated by the Department of Defense (DOD) and navigable airspace are subject to the Federal Aviation Administration's (FAA) standards for determining obstructions to air navigation. Criteria for determining whether an object is an obstruction to air navigation is described in Federal Aviation Regulation Part 77, Subpart C or Unified Facilities Criteria 3-260-01. These regulations describe standards used to determine obstructions that could affect the safe and efficient use of airspace and the operation of planned or existing air navigation and communication facilities.

To determine whether an object is an obstruction to air navigation, the FAA has established the use of imaginary three-dimensional areas that extend from the runway, or "imaginary surfaces." Imaginary surfaces provide a planning tool to depict airspace management concepts graphically in a way that can enhance the safety and efficiency of aircraft operations. These surfaces are discussed in further detail and are shown in **Appendix B**. This EA analyzes tree obstructions within the imaginary surfaces that are associated with the aircraft operations at Dobbins ARB including the primary surface, clear zone surface, approach-departure clearance surface, and the transitional surface.

The current Dobbins ARB *Air Installation Compatible Use Zone (AICUZ) Study* was published in October 2011. The purpose of this study is to promote compatible land development in areas subject to aircraft noise and the potential for accidents as a result of aircraft overflights. The AICUZ Study provides updated noise zones and compatible use guidelines for land areas adjacent to the installation. The AICUZ Study also discusses height and obstruction criteria for military runways, as provided in Federal Aviation Regulation Part 77. It is recommended that the Federal regulations be enforced to prevent land uses that might otherwise be hazardous to aircraft operations.

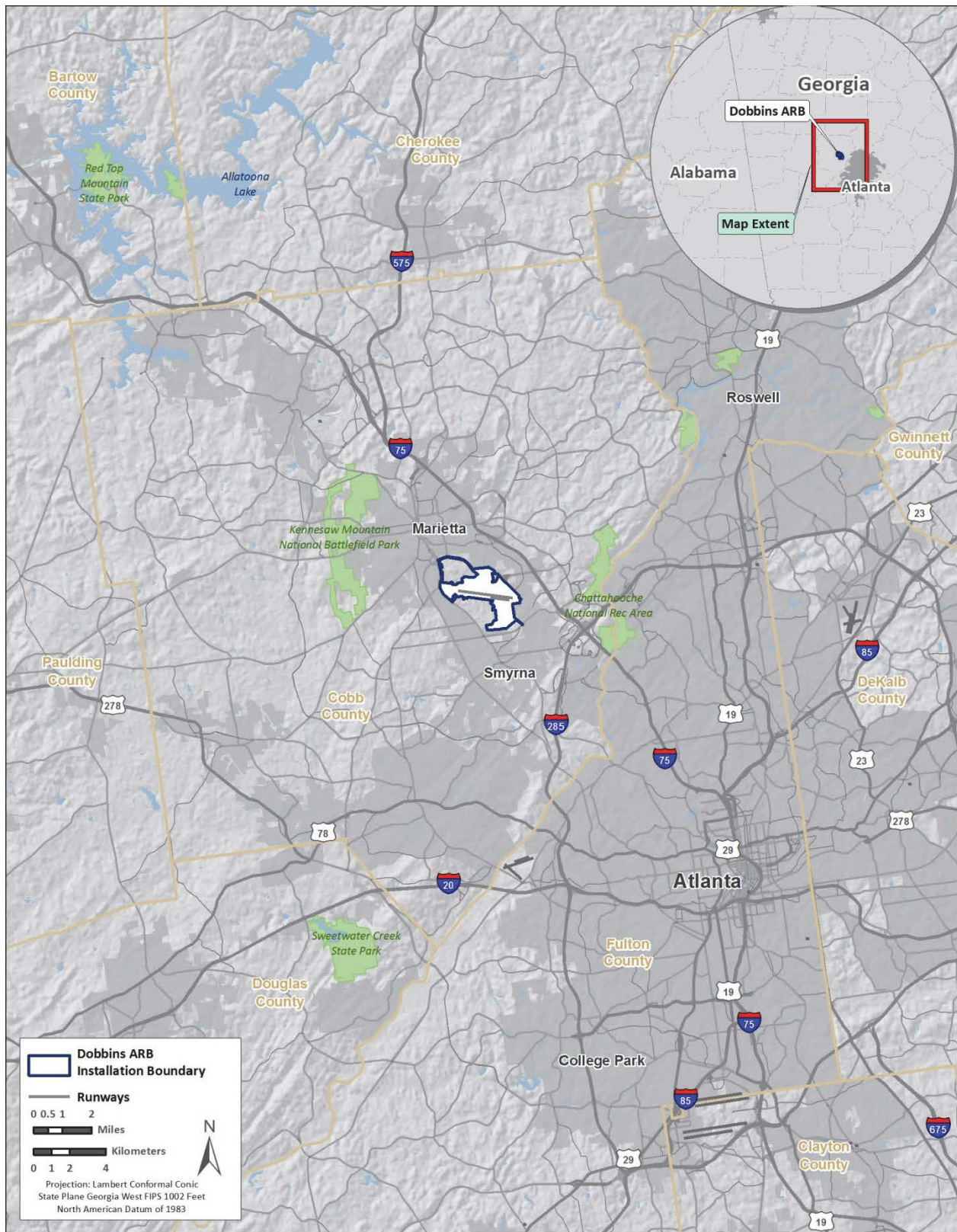


Figure 1-1. Dobbins ARB Vicinity Map



To identify natural obstructions around Dobbins ARB, a *Tree Management Plan to Manage Tree Obstructions at Dobbins ARB*, hereafter referred to as the *Tree Management Plan*, was completed in 2012 (Dobbins ARB 2012b). This Plan updated the airfield obstruction data and mapping products in support of airfield operational safety. At Dobbins ARB, trees have grown to a height that has the potential to affect airfield operations and flight safety adversely. Many of the trees requiring management are located on private property surrounding the installation; while other trees are on Dobbins ARB property.

### **1.3. Purpose of and Need for the Proposed Action**

The Proposed Action consists of managing tree obstructions to preserve flight safety at Dobbins ARB. Trees that are considered obstructions to air navigation have grown, or will soon grow, to a height that exceeds the limits of the primary surface, approach-departure surface, transitional surface, and the clear zone at Dobbins ARB. The Proposed Action would manage trees that are considered obstructions, or will soon become obstructions, on and off Dobbins ARB property. To manage tree obstructions, land access agreements or enforcement of county zoning ordinances could be required.

The purpose of the Proposed Action is to manage tree obstructions at Dobbins ARB in accordance with Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1. Within this regulation, the FAA established imaginary surfaces to determine whether an object is an obstruction to air navigation. Flight path obstructions within the airfield, and those located at distances beyond the runway should be managed to reduce the risk of an accident.

Dobbins ARB Runway 11/29 is classified as a Class B runway. Class B runways are primarily intended for high-performance and heavy aircraft. The Airspace Imaginary Surface and Clear Zone Criteria for Class B runways under Unified Facilities Criteria 3-260-1 include the following:

- The primary surface: extends 200 feet beyond the runway end and has a width of 1,000 feet on each side of the runway centerline.
- The approach-departure surface: begins 200 feet from the end of the runway, extends horizontally for 25,000 feet, and has a glide angle slope of 50:1. Approach/departure surfaces are based on instrument approach/departure procedures.
- The transitional surface: begins 1,000 feet from the runway centerline and ends at the inner horizontal surface, conical surface, outer horizontal surface, or at an elevation of 150 feet. The transitional surface is at right angles to the runway axis and has a slope of 7:1.
- The clear zone begins at the runway end and is 3,000 feet wide and 3,000 feet long.

See **Appendix B** for more information regarding imaginary surfaces.

The need for the Proposed Action is to preserve flight safety at Dobbins ARB and allow the installation to maintain their flying mission. Height obstructions can compromise the ability of aircraft to land safely, particularly in adverse weather conditions or during military training operations. Flight path obstructions pose risks to pilot safety and the welfare of populations on and adjacent to the installation.

### **1.4. Scope of the Analysis**

The analysis in this EA addresses the areas on and around the Dobbins ARB airfield within the imaginary surfaces. At Dobbins ARB, trees have grown to a height that adversely affects safe airfield operations and flight safety at the airfield. As a result, tree management zones were established from the data



identified in the *Tree Management Plan*. The tree management zones that are evaluated in this EA include the following and are shown in **Figure 1-2**:

- Installation Zone
- Approach Zone on the West End
- Transitional Zone on the West Approach
- Approach Zone on the East End
- Transitional Zone on the East Approach.

Tree management on Dobbins ARB Property would occur within 46 acres along the north and south sides of the runway. The Approach Zone on the West End includes 36.2 acres outside of DOD property west of Runway 11. The Approach Zone on the East End includes 20.6 acres outside of DOD property east of Runway 29. The Transitional Zone on the West Approach includes 2.2 acres outside of DOD property, generally north and south of the Approach Zone on the West End. The Transitional Zone on the East Approach includes 4.1 acres outside of DOD property, generally north and south of the Approach Zone on the East End. Additional information on the tree management zones is provided in **Section 2.1**.

Different methods would be used to manage tree obstructions including tree felling and tree trimming. Tree felling consists of taking down the entire tree, while tree trimming would only remove a portion of the tree.

This EA includes an evaluation of the Proposed Action and the No Action Alternative. Under the No Action Alternative, tree management for Dobbins ARB would be less comprehensive and flight safety would not be preserved.

The EA examines the potential effects of the Proposed Action and No Action Alternative on 11 resource areas: noise, land use, air quality, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, infrastructure, hazardous materials and wastes, and safety. These resources were identified as being potentially affected by the Proposed Action and include applicable elements of the human environment that are prompted for review by Executive Orders (EOs), regulations, or policy. The cumulative impacts analysis includes on-installation projects associated with the Proposed Action and other on-installation and off-installation projects.

## **1.5. Summary of Key Environmental Compliance Requirements**

### **1.5.1. National Environmental Policy Act**

The National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] Section 4321–4347) is a Federal statute requiring the identification and analysis of potential environmental impacts associated with proposed Federal actions before those actions are taken. The intent of NEPA is to help decisionmakers make well-informed decisions based on an understanding of the potential environmental consequences and take actions to protect, restore, or enhance the environment. NEPA established the Council on Environmental Quality (CEQ), which was charged with the development of implementing regulations and ensuring Federal agency compliance with NEPA. CEQ regulations mandate that all Federal agencies use a prescribed structured approach to environmental impact analysis.

This approach also requires Federal agencies to use an interdisciplinary and systematic approach in their decisionmaking process. This process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action.

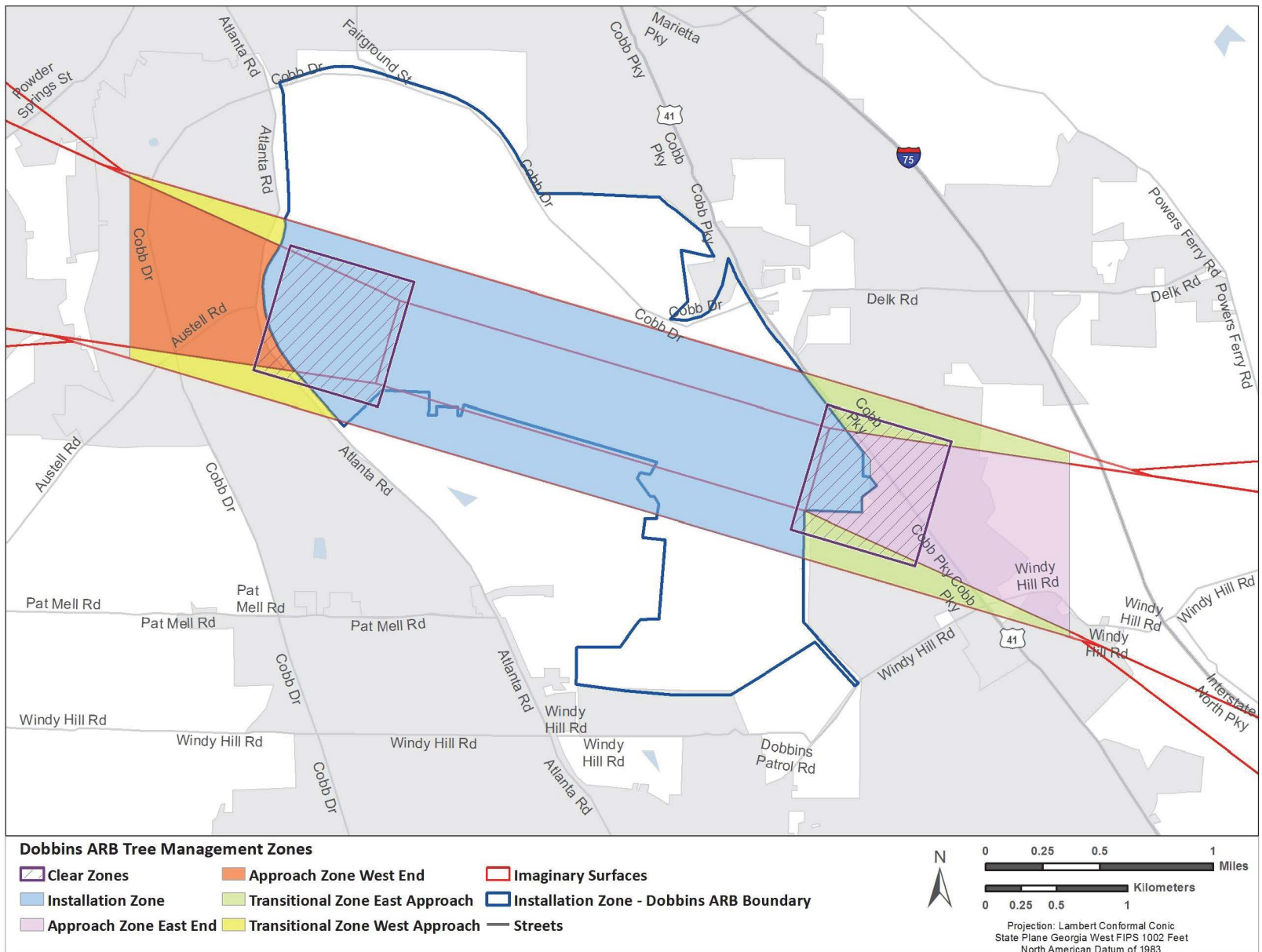


Figure 1-2. Tree Management Zones

The process for implementing NEPA is codified in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. CEQ regulations specify that the NEPA process should be used to identify and assess the reasonable alternatives to proposed actions that would avoid or minimize adverse effects of those actions upon the quality of the natural and human environment. CEQ regulations specify that an EA be prepared to provide evidence and analysis for determining whether to prepare a Finding of No Significant Impact (FONSI), or whether the preparation of an Environmental Impact Statement (EIS) is necessary. All projects directly or indirectly impacting wetland and floodplain areas require a Finding of No Practicable Alternative (FONPA) and approval from Headquarters AFRC as discussed in **Section 1.5.2**. If an EA is completed and significant impacts are not identified, the decisionmaker would sign and publish a FONSI/FONPA. The EA can aid in an agency's compliance with NEPA by identifying when an EIS is unnecessary while organizing information when an EIS is required.

Air Force Policy Directive 32-70, *Environmental Quality*, states that the USAF will comply with applicable Federal, state, and local environmental laws and regulations, including NEPA. The USAF's implementing regulation for NEPA is the *Environmental Impact Analysis Process*, codified in 32 CFR Part 989, as amended.

### 1.5.2. Integration of Other Environmental Statutes and Regulations

To comply with NEPA, the planning and decisionmaking process for actions proposed by Federal agencies involves a study of other relevant environmental statutes and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decisionmaker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated “with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively.”

The Proposed Action will directly and indirectly impact wetlands and the 100-year floodplain. In accordance with Executive Order (EO) 11990, *Protection of Wetlands*, and EO 11988, *Floodplain Management*, the USAF must demonstrate that there are no practical alternatives to construction within a wetland or floodplain. In accordance with 32 CFR Part 989, *Environmental Impact Analysis Process*, a FONPA approved by Headquarters AFRC must accompany the FONSI stating why there are no practicable alternatives to activities within wetland and floodplain areas. In addition, appropriate permits must be obtained from applicable regulatory agencies to address impacts on wetland and floodplain areas and to determine if potential mitigation is required, as will be discussed in **Section 3** of the EA.

While not comprehensive, a list of potentially applicable laws, regulations, policies, and planning criteria is provided in **Table 1-1**.

## 1.6. Public Involvement and Agency Consultation

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), Native American Tribal Consultation, and Public Involvement are parts of the coordination associated with the development of this EA.

**IICEP.** NEPA requirements help ensure that environmental information is made available to the public during the decisionmaking process and prior to actions being taken. The premise of NEPA is that the quality of Federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process. The Intergovernmental Coordination Act and EO 12372,

*Intergovernmental Review of Federal Programs*, require Federal agencies to cooperate with and consider state and local views in implementing a Federal proposal. Air Force Instruction (AFI) 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning*, requires the USAF to implement the IICEP process, which is used for the purpose of agency coordination and implements scoping requirements. Through the IICEP process, Dobbins ARB notifies relevant Federal, state, and local agencies of the Proposed Action, identifies alternatives, and provides sufficient time to present any specific environmental concerns associated with the Proposed Action. IICEP material related to this action has been included in **Appendix A**.

**Table 1-1. Summary of Potentially Applicable Statutes and Regulations**

Regulation	Source
<b>Air Quality</b>	
Clean Air Act of 1970 and Amendments of 1977 and 1990, including the General Conformity Rule and the Greenhouse Gas Tailoring Rule	42 U.S.C. 7401 et seq., as amended
Air Quality Compliance	AFI 32-7040
Federal Leadership in Environmental, Energy, and Economic Performance	EO 13514
<b>Noise</b>	
Noise Control Act of 1972	42 U.S.C. 4901 et seq., Public Law (P.L.) 92-574
Air Installation Compatible Use Zone Program	AFI 32-7063
<b>Airspace</b>	
Air Force Airspace Management	AFI 13-201
Aeronautical Information Manual	Federal Aviation Administration Manual
<b>Health and Safety</b>	
Occupational Safety and Health Act of 1970	29 U.S.C. 651 et seq., P.L. 91-596
Air Force Occupational and Environmental Safety, Fire Protection, and Health Program	AFI 91-301
USAF Mishap Prevention Program	AF 91-202
Protection of Children from Environmental Health and Safety Risks	EO 13045
<b>Topography, Geology and Soils</b>	
Farmland Protection Policy Act of 1981	7 U.S.C. 4201
<b>Water Quality, Wetlands, and Floodplains</b>	
Clean Water Act of 1972	33 U.S.C. 1251 et seq., as amended
Safe Drinking Water Act of 1974	42 U.S.C. 300f
Energy Independence and Security Act of 2007	42 U.S.C. 17001 et seq., P.L. 110-140
Water Quality Compliance	AFI 32-7041
Protection of Wetlands	EO 11990
Floodplain Management	EO 11988

Regulation	Source
<b>Biological Resources</b>	
Endangered Species Act of 1973	16 U.S.C. 1531–1543
Migratory Bird Treaty Act of 1918	16 U.S.C. 703–712
Bald and Golden Eagle Protection Act	16 U.S.C. 668–668c
Sikes Act Improvement Act of 1977	16 U.S.C. 670a–670o, 74 Stat. 1052
Invasive Species (3 February 1999)	EO 13112
Protection and Enhancement of Environmental Quality	EO 11514
Conservation of Migratory Birds	EO 13186
Integrated Natural Resources Management	AFI 32-7064
<b>Land Use and Aesthetic Resources</b>	
Sikes Act of 1960	16 U.S.C. 670a–670o, P.L. 86-797, as amended
Land Use Planning Bulletin, Base Comprehensive Planning	Headquarters Air Force Center for Engineering and the Environment, 1 August 1986
Land Use Planning	Air Force Pamphlet 32-1010
Air Force Comprehensive Planning	AFI 32-7062
Intergovernmental Review of Federal Programs	EO 12372
<b>Cultural Resources</b>	
National Historic Preservation Act of 1966	16 U.S.C. 470 et seq., as amended
Archaeological Resources Protection Act of 1979	16 U.S.C. 470a–11, as amended
American Indian Religious Freedom Act of 1978	P.L. 95-341 and 42 U.S.C. 1996, as amended
Native American Graves Protection and Repatriation Act of 1990	P.L. 101-601 and 25 U.S.C. 3001–3013
Protection and Enhancement of the Cultural Environment	EO 11593
Indian Sacred Sites	EO 13007
Consultation and Coordination with Indian Tribal Governments	EO 13175
Preserve America	EO 13287
Cultural Resources Management	AFI 32-7065
<b>Hazardous Materials and Waste Management</b>	
Resource Conservation and Recovery Act of 1976	42 U.S.C. 6901, as amended
Comprehensive Environmental Response, Compensation, and Liability Act of 1980	42 U.S.C. 9601 et seq.
Pollution Prevention Act of 1990	42 U.S.C. 1301 et seq.
Toxic Substance Control Act of 1976	15 U.S.C. 53
Superfund Amendments and Reauthorization Act of 1986	26 U.S.C. 9507
Federal Insecticide, Fungicide, and Rodenticide Act of 1947	P.L. 80-104, 7 U.S.C 136 et seq., as

Regulation	Source
	amended
Federal Facilities Compliance Act of 1992	P.L. 102-386
Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements	EO 12856
Waste Management	AFI 32-7042
Environmental Restoration Program	AFI 32-7020
Federal Compliance with Pollution Control Standards	EO 12088
Defense Environmental Restoration Program	10 U.S.C. 2701 et seq.
<b>Environmental Justice</b>	
Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	EO 12898
<b>Infrastructure</b>	
Hazardous Material Transportation Act of 1975	49 U.S.C. 5101–5128
Strengthening Federal Environmental, Energy, and Transportation	EO 13423
Federal Leadership in Environmental, Energy, and Economic Performance	EO 13514

**Native American Tribal Consultation.** EO 13175, *Consultation and Coordination with Indian Tribal Governments* (6 November 2000), directs Federal agencies to coordinate and consult with federally recognized Native American tribal governments on a government-to-government basis whose interests might be directly and substantially affected by activities on federally administered lands. To comply with legal mandates, federally recognized tribes that are affiliated historically within the Dobbins ARB geographic region are invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. Because many tribes were displaced from their original homelands, tribes with cultural roots in an area might not currently reside in the region where the undertaking is to occur. Effective consultation requires identification of tribes based on ethnographic and historical data and not simply a tribe's proximity to a project area. The tribal consultation process is distinct from NEPA consultation or the IICEP processes and requires separate notification of all relevant tribes by Dobbins ARB. The timelines for tribal consultation are also distinct from those of intergovernmental consultations. The Dobbins ARB Cultural Resources Manager serves as the point-of-contact for day-to-day issues with Native American tribes, the Georgia State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP).

A letter requesting participation in the EA process was sent to each affiliated tribe describing the Proposed Action on Dobbins ARB and asking them to identify any potential concerns they might have. The goal of the tribal consultation process is not simply to consult on a particular undertaking but rather to build constructive relationships with the appropriate Native American tribes. Consultation should lead to constructive dialogue in which Native American tribes are active participants in the planning process. A list of the Native American tribal governments who were contacted regarding this action is included in **Appendix A**.

**Public Involvement.** A public notice announcing the availability of the Final Description of the Proposed Action and Alternatives (developed to support the preparation of the EA) was published in the *Marietta Daily Journal* on Wednesday April 17, 2013, and was available to the public at the Cobb County Central

Library, 266 Roswell Street, Marietta, Georgia. Once the Draft EA was finalized, a Notice of Availability was published in the *Marietta Daily Journal* on July 23, 2013. The Draft EA was available to the public for a 30-day review and comment period. The Notice of Availability was issued to solicit comments on the Proposed Action and involve the local community in the decisionmaking process. A public meeting was conducted at the Cobb County Central Library on July 31, 2013 to involve the local community further. Public and agency comments on the Draft EA were considered prior to a decision being made as to whether or not to sign a FONSI/FONPA.

## 2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section presents information on the Proposed Action to manage tree obstructions to preserve flight safety at Dobbins ARB. As discussed in **Section 1.5.1**, the NEPA process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for a proposed action, which are defined in **Section 1.2**. CEQ regulations specify the inclusion of a No Action Alternative against which potential effects can be compared. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, it is analyzed in detail in accordance with CEQ regulations.

### 2.1. Proposed Action

The Proposed Action consists of managing tree obstructions to preserve flight safety at Dobbins ARB. Trees that are considered obstructions to air navigation have grown to a height that exceeds the limits of the primary surface, clear zone surface, approach-departure clearance surface, and the transitional surface at Dobbins ARB. The Proposed Action would preserve flight safety at Dobbins ARB, which would enhance pilot safety, protect the welfare of adjacent populations, and allow the installation to maintain their flying mission. Trees that require management are located on private property surrounding the installation and on Dobbins ARB property.

There are two different methods that could be used to manage tree obstructions: tree felling or tree trimming. Tree felling consists of taking down target trees by hand with manual chainsaws or with machines. Once the trees were cut, the logs and debris would be assembled in a loading zone until they were removed. After the logs and debris were removed, the loading zone would be regraded, seeded, or mulched, as necessary. In addition, erosion-control barriers would be used, if needed. Where optimal working conditions occur, soil disturbance would be completely avoided.

Tree trimming involves identifying the target trees in the field, determining the height that requires cutting, climbing each tree, and then removing a portion of the tree. Once the tops fall to the ground, chainsaws are used to cut the logs into smaller pieces. In forested areas, the debris might be scattered; in nonforested areas the debris would be removed.

Under the Proposed Action, motorized equipment would not be allowed in sensitive areas, such as wetlands, which are present on the installation. This would minimize soil compaction and protect sensitive ecosystems from potential adverse impacts. Additionally, soil erosion would be minimized through the implementation of measures such as silt fences. Operations associated with the Proposed Action would avoid, to the extent possible, impacts on the natural and physical environments that require tree maintenance.

Tree management zones were established from the data identified in the *Tree Management Plan* and are discussed in the following paragraphs.

**Installation Zone.** This zone consists entirely of Dobbins ARB property. Tree management would occur within 46 acres along the north and south sides of the runway. Access to vegetation would be unimpeded due to the system of roads and trails on the installation. This area primarily includes dry upland soils, with some wetland areas that include a few small ponds and creeks. The soils found consist primarily of clays within the Appling sand loam, Gwinnett clay loam, and Madison sandy loam classifications. Existing dominant target vegetation on Dobbins ARB property includes loblolly pine (*Pinus taeda*),



yellow poplar (*Liriodendron tulipifera*), white oak (*Quercus alba*), sweet gum (*Liquidambar styraciflua*), American elm (*Ulmus americana*), river birch (*Betula nigra*), and red maple (*Acer rubrum*).

**Approach Zone on the West End.** The zone includes 36.2 acres outside of DOD property west of Runway 11 and is within the approach-departure clearance surface. It is bounded by Dobbins ARB property on the east side; the west boundary is adjacent to South Cobb Drive. This area consists primarily of private residential property with commercial property along Atlanta Road. The soils found within the target vegetation areas consist primarily of Urban Land complexes. Dominant target vegetation off-installation includes loblolly pine, yellow poplar, white oak, American elm, southern magnolia (*Magnolia grandiflora*), pecan (*Carya illinoensis*), and live oak (*Quercus virginiana*).

**Transitional Zone on the West Approach.** This zone is outside of DOD property, generally north and south of the Approach Zone on the West End. It is within the transitional surface and parallels the Approach Zone on the West End. The 2.2-acre area primarily includes residential properties with some commercial development along Atlanta Road. The soils and vegetation are the same as those described in Approach Zone on the West End.

**Approach Zone on the East End.** This zone includes 20.6 acres outside of DOD property east of Runway 29 and is within the approach-departure clearance surface. This area consists primarily of commercial property with some residential developments along Terrell Mill Road. The soils consist primarily of clays within the Appling sandy loam and Madison sandy loam classifications, along with some areas of Urban Land complexes. Although the same trees are present in this region as on the west side of the airfield, this area has a large number of loblolly pine on upland bluff areas (see **Figure 2-1**).



**Figure 2-1. Typical Stand of Trees within the Approach Zone on the East End.**

**Transitional Zone on the East Approach.** This zone on the East Approach is outside of DOD property, generally north and south of the Approach Zone on the East End. It is within the transitional surface and

parallels the Approach Zone on the East End. The 4.1-acre area is primarily commercial. The soils and vegetation are the same as those described in Approach Zone on the East End.

Given that some of the trees are on private property, the USAF might need to pursue land access agreements, such as rights-of-entry or avigation easements, if the USAF determines that the enforcement of county zoning ordinances would not be an effective management technique.

## **2.2. Selection Criteria**

To identify property to be selected for tree management where trees obstruct air navigation at Dobbins ARB, the following criteria were identified:

- The property must be within the imaginary surfaces that the FAA has established for DOD airfields.
- There must be natural obstructions that violate the limits defined by Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1 for the primary surface, clear zone surface, approach-departure clearance surface, and transitional surface at Dobbins ARB.

## **2.3. Alternatives Considered but Eliminated from Detailed Analysis**

Under NEPA, reasonable alternatives must be considered in the EA. Consequently, alternatives that were considered reasonable and practicable and meet the site-selection criteria were considered. An alternative that was considered but that did not meet all the site-selection criteria is described in the following paragraph.

***Tree Management on DOD Property Only.*** Under this alternative, trees that violated FAA criteria would only be felled or topped on installation property, while trees off-installation would remain unmanaged. This alternative would result in an insufficient coverage of flight safety for aircraft approaching Dobbins ARB. Trees off-installation would still be in violation of the Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1 criteria, which presents an increased safety threat to the installation and local population. Moreover, continued violation of flight safety standards could threaten the installation's ability to operate aircraft. Therefore, this alternative is not considered reasonable and is eliminated from further detailed analysis in this EA.

## **2.4. No Action Alternative**

Under the No Action Alternative, Dobbins ARB would continue to manage trees that are considered obstructions to air navigation within segments of the primary surface, approach-departure surface, transitional surface, and clear zones at the airfield. Although tree management occurs now, it is limited to those properties with existing real estate agreements. Tree management would not be comprehensive since it would not occur in all of the areas within the primary surface, approach-departure surface, transitional surface, and clear zones. Therefore, trees that are considered obstructions, or will soon become obstructions, would remain in the areas without real estate agreements. As a result, flight safety could be compromised. Height obstructions can compromise the ability of aircraft to operate safely, particularly in adverse weather conditions or during military training operations. If tree obstructions were not comprehensively managed, future aircraft arrivals and departures could be jeopardized if the USAF or FAA determined that waivers would no longer be granted because of violations to the Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-1. Tree obstructions could also become a safety concern to the extent that the installation would be compelled to suspend flight operations. Consequently,

the installation might be unable to fulfill its flying mission and the welfare of populations on and adjacent to the installation could be impacted.

This alternative is carried forward for analysis as a baseline against which the impacts of the Proposed Action and the potential action alternatives can be evaluated.

## **2.5. Decision to be Made and Identification of the Preferred Alternative**

In the EA, Dobbins ARB will evaluate whether the Proposed Action would result in any potentially significant impacts. If such impacts are predicted, Dobbins ARB would provide mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS addressing the Proposed Action, or abandon the Proposed Action. The Preferred Alternative has been identified as the Proposed Action.

### 3. AFFECTED ENVIRONMENT

All potentially relevant resource areas were considered for analysis in this EA. In compliance with NEPA and CEQ guidelines, the discussions of the affected environment in **Section 3** and the environmental consequences in **Section 4** focus only on those resource areas considered potentially subject to impacts. This section addresses air quality, noise, land use, geological resources, water resources, biological resources, cultural resources, infrastructure, hazardous materials and wastes, safety, and socioeconomics and environmental justice.

#### 3.1. Air Quality

##### 3.1.1. Definition of the Resource

In accordance with Federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm), milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The air quality in a region is a result not only of the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological “air basin,” and the prevailing meteorological conditions.

**Ambient Air Quality Standards.** The CAA directed the U.S. Environmental Protection Agency (USEPA) to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to impact human health and the environment. USEPA established both primary and secondary NAAQS under the provisions of the CAA. NAAQS are currently established for six criteria air pollutants: ozone ( $\text{O}_3$ ), carbon monoxide (CO), nitrogen dioxide ( $\text{NO}_2$ ), sulfur dioxide ( $\text{SO}_2$ ), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [ $\text{PM}_{10}$ ] and particulate matter equal to or less than 2.5 microns in diameter [ $\text{PM}_{2.5}$ ]), and lead (Pb). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources along with maintaining visibility standards. The State of Georgia has adopted the NAAQS for criteria pollutants with the exception of some  $\text{SO}_2$  standards. **Table 3-1** presents the primary and secondary USEPA NAAQS.

**Attainment Versus Nonattainment and General Conformity.** The USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. Areas within each AQCR are therefore designated as either “attainment,” “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS; nonattainment indicates that criteria pollutant levels exceed NAAQS; maintenance indicates that an area was previously designated nonattainment but is now attainment; and an unclassified air quality designation by USEPA means that there is not enough information to classify an AQCR appropriately, so the area is considered attainment. USEPA has delegated the authority for ensuring compliance with the NAAQS in the State of Georgia to the Georgia Department of Natural Resources. In accordance with the CAA, each state must develop a State Implementation Plan (SIP), which is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS.

Table 3-1. National and State Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Standard		Secondary Standard
		Federal	Georgia	
CO	8-hour <sup>(1)</sup>	9 ppm (10 mg/m <sup>3</sup> )	Same	None
	1-hour <sup>(1)</sup>	35 ppm (40 mg/m <sup>3</sup> )	Same	None
Pb	Quarterly average	1.5 µg/m <sup>3</sup>	Same	Same as Primary
	Rolling 3-Month Average	0.15 µg/m <sup>3</sup> <sup>(2)</sup>	Same	Same as Primary
NO <sub>2</sub>	Annual Arithmetic Mean	53 ppb <sup>(3)</sup>	Same	Same as Primary
	1-hour	100 ppb <sup>(4)</sup>	Same	None
PM <sub>10</sub>	24-hour <sup>(5)</sup>	150 µg/m <sup>3</sup>	Same	Same as Primary
PM <sub>2.5</sub>	Annual Arithmetic Mean <sup>(6)</sup>	15 µg/m <sup>3</sup>	Same	Same as Primary
	24-hour <sup>(7)</sup>	35 µg/m <sup>3</sup>	Same	Same as Primary
O <sub>3</sub>	8-hour <sup>(8)</sup>	0.075 ppm (2008 Standard)	Same	Same as Primary
	8-hour <sup>(9)</sup>	0.08 ppm (1997 Standard)	Same	Same as Primary
	1-hour <sup>(10)</sup>	0.12 ppm	Same	Same as Primary
SO <sub>2</sub>	Annual Arithmetic Mean	0.03 ppm	80 µg/m <sup>3</sup>	0.5 ppm (3-hour) <sup>(1)</sup>
	24-hour <sup>(1)</sup>	0.14 ppm	365 µg/m <sup>3</sup>	0.5 ppm (3-hour) <sup>(1)</sup> 1,300 µg/m <sup>3</sup> (3-hr Georgia Standard)
	1-hour	75 ppb <sup>(11)</sup>	Same	None

Sources: NAAQS 2011, RAQC undated

Notes: Parenthetical values are approximate equivalent concentrations.

- Not to be exceeded more than once per year. Final rule signed 15 October 2008. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- The official level of the annual NO<sub>2</sub> standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of cleaner comparison to the 1-hour standard.
- To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective 22 January 2010).
- Not to be exceeded more than once per year on average over 3 years.
- To attain this standard, the 3-year average of the weighted annual mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m<sup>3</sup>.
- To attain this standard, the 3-year average of the weighted annual of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m<sup>3</sup> (effective 17 December 2006).
- To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective 27 May 2008).
- To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
  - The 1997 standard – and the implementation rules for that standard – will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
  - USEPA is in the process of reconsidering these standards (set in March 2008).
- USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard (anti-backsliding).
  - The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.
- Final rule signed on June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

Key: ppm = parts per million; ppb = parts per billion; mg/m<sup>3</sup> = milligrams per cubic meter; µg/m<sup>3</sup> = micrograms per cubic meter

The General Conformity Rule, which applies only to certain actions in nonattainment or maintenance areas, requires Federal actions to “conform” with the applicable requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not cause a new violation of the NAAQS; contribute to an increase in the frequency or severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS.

**Greenhouse Gas Emissions.** GHGs are gaseous emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide. On 22 September 2009, the USEPA issued a final rule for mandatory GHG reporting from large GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on CO<sub>2</sub> and other GHG emissions that can be used to inform future policy decisions. In general, the threshold for reporting is 25,000 metric tons or more of CO<sub>2</sub> equivalent emissions per year but excludes mobile source emissions. GHG emissions will also be factors in Prevention of Significant Deterioration (PSD) and Title V permitting and reporting, according to a USEPA rulemaking issued on 3 June 2010 (75 Federal Register 31514). GHG emissions thresholds of significance for permitting of stationary sources are 75,000 tons CO<sub>2</sub> equivalent per year and 100,000 tons CO<sub>2</sub> equivalent per year under these permit programs.

EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, was signed in October 2009 and requires agencies to set goals for reducing GHG emissions. One requirement within EO 13514 is the development and implementation of an agency Strategic Sustainability Performance Plan (SSPP) that prioritizes agency actions based on lifecycle return on investment. Each SSPP is required to identify, among other things, “agency activities, policies, plans, procedures, and practices” and “specific agency goals, a schedule, milestones, and approaches for achieving results, and quantifiable metrics” relevant to the implementation of EO 13514. On 26 August 2010, DOD released its SSPP to the public. This implementation plan describes specific actions the DOD will take to achieve its individual GHG reduction targets, reduce long-term costs, and meet the full range of goals of the EO. All SSPPs segregate GHG emissions into three categories: Scope 1, Scope 2, and Scope 3 emissions. Scope 1 GHG emissions are those directly occurring from sources that are owned or controlled by the agency. Scope 2 emissions are indirect emissions generated in the production of electricity, heat, or steam purchased by the agency. Scope 3 emissions are other indirect GHG emissions that result from agency activities but from sources that are not owned or directly controlled by the agency. The GHG goals in the DOD SSPP include reducing Scope 1 and Scope 2 GHG emissions by 34 percent by 2020, relative to Fiscal Year (FY) 2008 emissions, and reducing Scope 3 GHG emissions by 13.5 percent by 2020, relative to FY 2008 emissions.

### 3.1.2. Affected Environment

All of the tree management zones are in Cobb County, Georgia, which is within the Metropolitan Atlanta AQCR. The Metropolitan Atlanta AQCR also includes Butts, Carroll, Clayton, Coweta, De Kalb, Douglas, Fayette, Fulton, Gwinnett, Heard, Henry, Lamar, Meriwether, Pike, Rockdale, Spalding, Troup, and Upson counties in Georgia (CFRMAIAQCR 2012). Cobb County has been designated by the USEPA as unclassified/attainment for CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, and PM<sub>10</sub>. Cobb County has been designated as nonattainment for PM<sub>2.5</sub>, moderate nonattainment for 8-hour O<sub>3</sub>, and maintenance for 1-hour O<sub>3</sub> (CFRGA 2012). Class I Federal areas include areas such as national parks, national wilderness areas, and national monuments. These areas are given special air quality protections under Section 162(a) of the CAA. However, according to 40 CFR Part 81, no Class I areas are located within 10 kilometers of the site alternatives (USEPA 2011).

The most recent emissions inventories for Cobb County and the Metropolitan Atlanta AQCR are shown in **Table 3-2**. Cobb County is considered the local area of influence, and the Metropolitan Atlanta AQCR is considered the regional area of influence for the air quality analysis. O<sub>3</sub> is not a direct emission; it is generated from reactions of volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>), which are precursors to O<sub>3</sub>. Therefore, for the purposes of this air quality analysis, VOCs and NO<sub>x</sub> emissions are used to represent O<sub>3</sub> generation.

**Table 3-2. Local and Regional Air Emissions Inventories  
for Areas Impacted by the Proposed Action (2008)**

	NO <sub>x</sub> (tpy)	VOC (tpy)	CO (tpy)	SO <sub>2</sub> (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)
Cobb County	20,872	22,492	129,676	25,972	17,573	3,892
Metropolitan Atlanta AQCR	161,849	150,101	890,752	178,961	165,459	34,875

Source: SGACEG 2008

Dobbins ARB currently holds an approved synthetic minor air operating permit with the Georgia Department of Natural Resources (GADNR). This permit contains operational limits for emissions from the facility to remain below the Title V operating permit thresholds. Any new stationary sources added to Dobbins ARB would need to be evaluated as to whether they would affect compliance with this permit. In addition, new stationary sources would need to be added to this permit through approval by GADNR (Dobbins ARB 2011a).

## 3.2. Noise

### 3.2.1. Definition of the Resource

Sound is defined as a particular auditory effect produced by a given source, for example the sound of rain on a rooftop. Noise and sound share the same physical aspects, but noise is considered a disturbance while sound is defined as an auditory effect. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Noise can be intermittent or continuous, steady or impulsive, and can involve any number of sources and frequencies. It can be readily identifiable or generally nondescript. Human response to increased sound levels varies according to the source type, characteristics of the sound source, distance between source and receptor, receptor sensitivity, and time of day. How an individual responds to the sound source will determine if the sound is viewed as a pleasant sound or as annoying noise. Affected receptors are specific (e.g., schools, churches, or hospitals) or broad areas (e.g., nature preserves or designated districts) in which occasional or persistent sensitivity to noise above ambient levels exists.

#### 3.2.1.1. Noise Metrics and Regulations

Although human response to noise varies, measurements can be calculated with instruments that record instantaneous sound levels in decibels. A-weighted decibel (dBA) is used to characterize sound levels that can be sensed by the human ear. “A-weighted” denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 135 dBA (USEPA 1981a). **Table 3-3** compares common sounds and shows how they rank in terms of the effects of hearing.



**Table 3-3. Sound Levels and Human Response**

Noise Level (dBA)	Common Sounds	Effect
10	Just audible	Negligible
30	Soft whisper (15 feet)	Very quiet
50	Light auto traffic (100 feet)	Quiet
60	Air conditioning unit (20 feet)	Intrusive
70	Noisy restaurant or freeway traffic	Telephone use difficult
80	Alarm clock (2 feet)	Annoying
90	Heavy truck (50 feet) or city traffic	Very annoying Hearing damage (8 hours)
100	Garbage truck	Very annoying
110	Pile drivers	Strained vocal effort*
120	Jet takeoff (200 feet) or auto horn (3 feet)	Maximum vocal effort
140	Carrier deck jet operation	Painfully loud

Source: USEPA 1981b

Note: \* HDR extrapolation

As shown, a whisper is normally 30 dBA and considered to be very quiet while an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud (USEPA 1981b).

### 3.2.1.2. Federal Regulations

**OSHA Standards.** The Federal government has established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise. Under the Noise Control Act of 1972, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits (29 CFR Part 1910.95).

**DOD Guidelines.** Sound levels, resulting from multiple single events, are used to characterize noise effects from aircraft or vehicle activity and are measured in Day-Night Average Sound Level (DNL). The DNL noise metric incorporates a “penalty” for nighttime noise events to account for increased annoyance. DNL is the energy-averaged sound level measured over a 24-hour period, with a 10-dBA penalty assigned to noise events occurring between 10:00 p.m. and 7:00 a.m. DNL values are obtained by averaging sound exposure levels over a given 24-hour period. DNL is the designated noise metric of the FAA, U.S. Department of Housing and Urban Development (HUD), USEPA, and DOD for modeling airport environments.



According to the USAF, the FAA, and the HUD criteria, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds 75 dBA DNL, “normally unacceptable” in regions exposed to noise between 65 and 75 dBA DNL, and “normally acceptable” in areas exposed to noise of 65 dBA DNL or under. The Federal Interagency Committee on Noise developed land use compatibility guidelines for noise in terms of a DNL sound level (FICON 1992). For outdoor activities, the USEPA recommends 55 dBA DNL as the sound level below which there is no reason to suspect that the general population would be at risk from any of the effects of noise (USEPA 1974).

**State Regulations.** The State of Georgia does not have a comprehensive noise control regulation (State of Georgia 2011). Therefore, the sound level limits contained in the Cobb County or City of Marietta Code of Ordinances would apply to the Proposed Action.

**Local Regulations.** Dobbins ARB is located in Cobb County, and four of the proposed Tree Management Zones are located within the Marietta city limits. Noise regulations for Cobb County are contained in Chapter 50, Article VII of the Cobb County Code of Ordinances. Per the ordinance, “loud noise” from construction (similar to the proposed tree management) activities (e.g., pile driver, pneumatic hammer, electric saws, and drills) is only permitted between 7:00 a.m. and 9:00 p.m., Monday through Saturday (CCGACO 2012).

Noise regulations for the City of Marietta are contained in Chapter 10-6 of the Marietta Code of Ordinances. Per the ordinance, operation of any sound-producing source cannot exceed the following limits (MGACO 2012). However, these sound level limits could be exceeded if a special administrative permit is obtained.

- At the boundary of a residential, public space, institutional, commercial, or business area, sound levels cannot exceed 65 dBA between 7:00 a.m. and 11:00 p.m., and 60 dBA between 11:00 p.m. and 7:00 a.m.
- At the boundary of an industrial or manufacturing area, sound levels cannot exceed 70 dBA at any time.

In addition, construction activities within 1,000 feet of any residential area are not permitted between 7:00 p.m. and 7:00 a.m. or anytime on Sundays. However, a permit may be granted for these activities during these times if the city engineer determines that these activities would not impair the public’s health or safety (MGACO 2012).

### 3.2.1.3. Construction Equipment Sound Levels

Construction equipment can cause an increase in sound that is well above the ambient level. A variety of sounds are emitted from loaders, trucks, saws, and other work equipment. **Table 3-4** lists noise levels associated with common types of construction and tree management equipment. This type of equipment usually exceeds the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area.

### 3.2.2. Affected Environment

The ambient noise environment throughout Dobbins ARB is affected mainly by aircraft operations and automobile traffic, with military aircraft operations being the primary sound sources. Flying units at Dobbins ARB include the 94th Airlift Wing, the Georgia Army National Guard (GAARNG), and the

**Table 3-4. Predicted Noise Levels for Construction and Tree Management Equipment**

<b>Construction Category and Equipment</b>	<b>Predicted Noise Level at 50 feet (dBA)</b>
Backhoe	72–93
Concrete mixer	74–88
Crane	75–87
Front loader	72–83
Grader	80–93
Jackhammer	81–98
Paver	86–88
Pile driver	95–105
Chainsaw	105–110
Feller Buncher	100–110
Roller	73–75
Truck	83–94

Sources: USEPA 1971, NCAPL 2010

U.S. Army Reserve. In addition, aircraft from AFP-6 fly out of Dobbins ARB. Aircraft include the C-130, UH-60, and UH-72; and the C-5, and C-130 aircraft delivered by AFP-6. As detailed in the 2011 AICUZ Study for Dobbins ARB, DNL noise contours were modeled based on the operations and maintenance of the listed aircraft used at the installation. The 2011 DNL noise contours developed extend along the runway centerline to the east and west. The shape of the noise contours result, in part, due to the closed-pattern flight tracks flown to the north and south of the airfield by the previously listed aircraft. The 2011 DNL noise contours encompass land outside of the installation boundary primarily in Cobb County, followed by the City of Marietta and a small portion of property in northern Smyrna. Some areas in Cobb County and the City of Marietta are exposed to high noise levels under current operational conditions (Dobbins ARB 2011b). All of the proposed tree management zones fall within the 2011 DNL noise contours at Dobbins ARB and would either be within potentially noise-sensitive land uses or border them.

Vehicle use associated with military operations at Dobbins ARB consists of passenger vehicles, delivery trucks, and military vehicles. Passenger vehicles compose most of the vehicles present at Dobbins ARB and the surrounding community roadways. Roadways around the installation include South Cobb Drive to the north, U.S. Highway 41 (Cobb Parkway) to the east, Atlanta Road to the west, and Windy Hill Road to the south (Dobbins ARB 2011b).

### **3.3. Land Use**

#### **3.3.1. Definition of the Resource**

Land use refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified through the local comprehensive planning process. There is, however, no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, “labels,” and definitions vary among jurisdictions.

Natural conditions of property can be described or categorized as unimproved, undeveloped, and natural or scenic. There is a wide variety of land use categories resulting from human activity. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Compatible land use fosters the societal interest of obtaining the highest and best uses of real property. Tools supporting land use planning include written master plans/management plans and zoning regulations.

According to AFI 32-7062, *Air Force Comprehensive Planning*, the site planning process must address potential noise impacts and consider the location of buildings. In appropriate cases, the locations and extent of proposed actions need to be evaluated for their potential effects on project site and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project site, the types of land uses on adjacent properties and their proximity to a proposed action, the duration of a proposed activity, and its “permanence.”

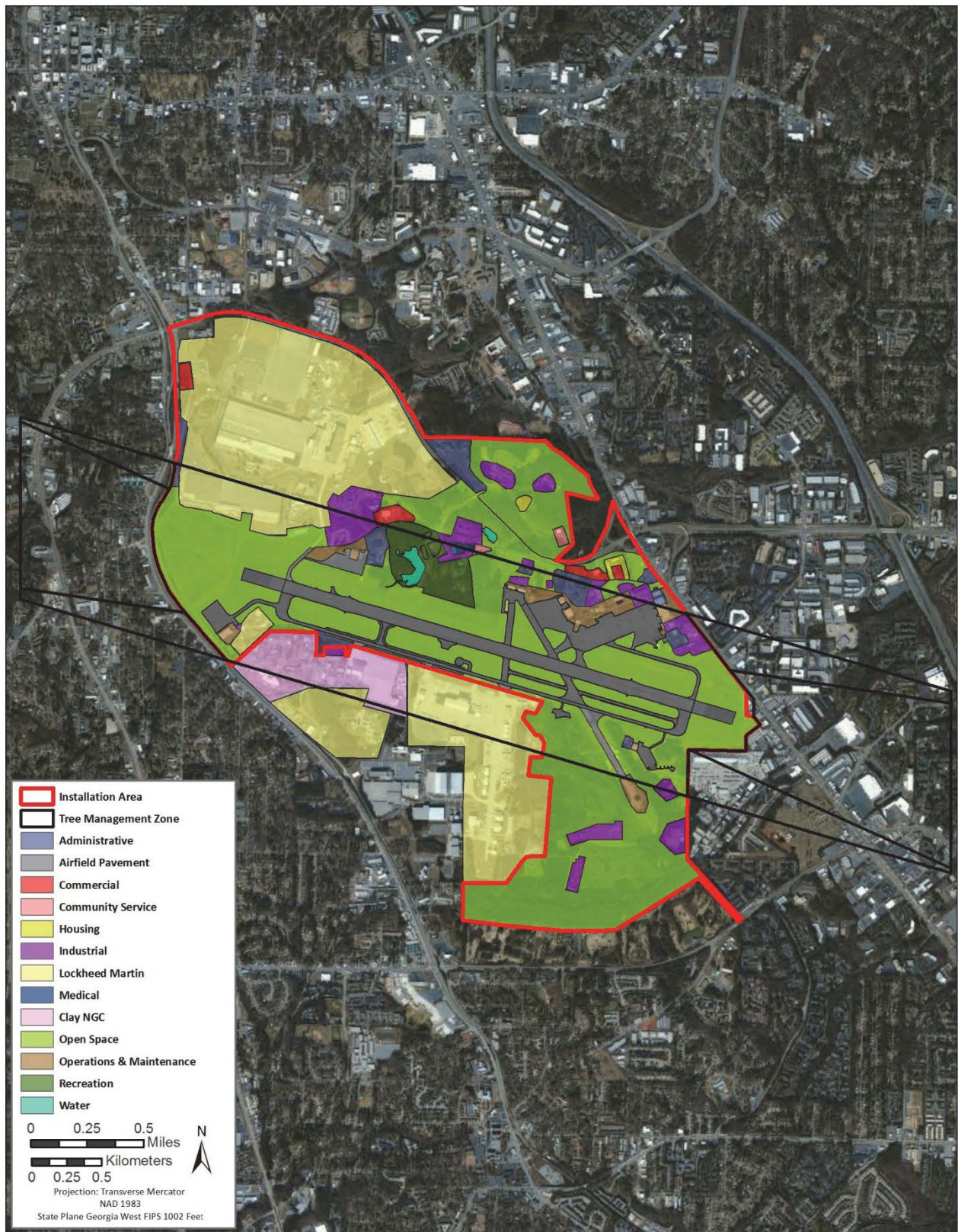
Visual resources include the natural and man-made physical features that give a particular landscape its character. The features that form the overall visual impression a viewer receives include landforms, vegetation, water, color, adjacent scenery, scarcity, and man-made modifications.

### 3.3.2. Affected Environment

As defined in the General Plan for Dobbins ARB, the installation has 10 land use designations: administrative, airfield pavement, community commercial, community service, housing, industrial, medical, open space, operations and maintenance, and recreation. Additionally, land occupied by Lockheed Martin and the Lucius D. Clay National Guard Center in the southern portion of the installation is identified with unique land use designations (Dobbins ARB 2010a). Federal and county governments have developed planning criteria for airfields to prevent the introduction of obstructions that could endanger the airfield and associated aircraft operations, and surrounding land uses (see **Figure 3-1**).

The *Cobb County 2030 Comprehensive Plan* was adopted in 2007 and was last revised in February 2010. It does not serve as a development ordinance, but rather as a growth management guide for unincorporated areas of the county (Dobbins ARB 2010a). The *City of Marietta Comprehensive Plan 2006–2030* was adopted in 2005 and is designed to guide growth throughout the city (Dobbins ARB 2010a).

Cobb County has enacted amendments to the Official Code of Cobb County to integrate Dobbins ARB land uses better with surrounding land uses. These amendments to the county ordinance include creating the Military Airport Hazard District, which was established to contribute to the safe operation of Dobbins ARB and protect the public by limiting land uses which require or generate large concentrations of individuals as recommended by the 2011 Dobbins ARB AICUZ Study. The ordinance outlines acceptable land uses in the Clear Zone, Accident Potential Zone (APZ) I and APZ II in Cobb County and the City of Marietta. The ordinance calls for regulating nonconforming uses and natural growth (e.g., tree growth), within the Clear Zone, APZ I and APZ II, and noise zones. The tree management zones are within and immediately around these areas. Under these amendments, limitations would be placed on vertical obstructions, including tree growth, to comply with the Official Code of Cobb County (Cobb County 2013a).



**Figure 3-1. Dobbins ARB Land Use Map**

### 3.3.2.1. Installation Zone

The Installation Zone is entirely within Dobbins ARB. Land use in this zone is classified as open space (the largest land use category in the Installation Zone), airfield pavements, recreation, housing, industrial, administrative, operations and maintenance, and land designated for Lockheed Martin and Lucius D. Clay National Guard Center. Land uses immediately surrounding the Installation Zone on Dobbins ARB include open space, industrial, administrative, community service, medical, recreation, and land designated for Lockheed Martin and Lucius D. Clay National Guard Center (Dobbins ARB 2010a).

### 3.3.2.2. Approach and Transitional Zones on the West End

The Approach and Transitional Zones on the West End are within Cobb County. The zones consist primarily of property classified as residential, with some commercial, industrial, and public land uses (see **Figure 3-2**). Land uses surrounding this zone consist of a similar mix of mostly residential, with some commercial, industrial, and public uses (Dobbins ARB 2011b).

### 3.3.2.3. Approach and Transitional Zones on the East End

The Approach and Transitional Zones on the East End are within the City of Marietta. The zones are primarily classified as industrial and commercial property. A majority of the property in the Approach Zone on the East End is commercial, with the majority of the property in the Transitional Zone on the East Approach being industrial. The eastern ends of these zones have some residential land use. Surrounding areas consist mostly of industrial uses, with some commercial and residential uses (Dobbins ARB 2011b).

## 3.4. Geological Resources

### 3.4.1. Definition of the Resource

**Topography.** Topography refers to the general shape and arrangement of a land surface, including its elevation and the position of both natural and artificial features.

**Geology.** Geology is the study of Earth's composition and provides information on the structure of surface and subsurface features. Geologic hazards are natural events that can endanger human lives and property such as earthquakes, landslides, rock falls, ground subsidence, and avalanches.

**Soils.** Soils consist of unconsolidated materials that overlay bedrock or other parent materials. Soil types can be defined by their unique physical characteristics in terms of size, structure, and function, and by their chemical properties to support a specific use such as agriculture (Dobbins ARB 2012c). **Table 3-5** describes primary criteria used by the Natural Resources Conservation Service to describe soils.

**Prime and Unique Farmland.** The Farmland Protection Policy Act (FPPA) was enacted to ensure that Federal programs do not unnecessarily convert farmland to non-agricultural uses. As defined by FPPA, "prime farmland" are those lands in which soil and environmental conditions offer a unique combination of physical and chemical characteristics suitable for the production of food, feed, forage, fiber, and oilseed crops, and that remain available for such uses. FPPA-defined "prime farmland" could be cropland, pasture, rangeland, or other land not consisting of the built environment or surface waters.



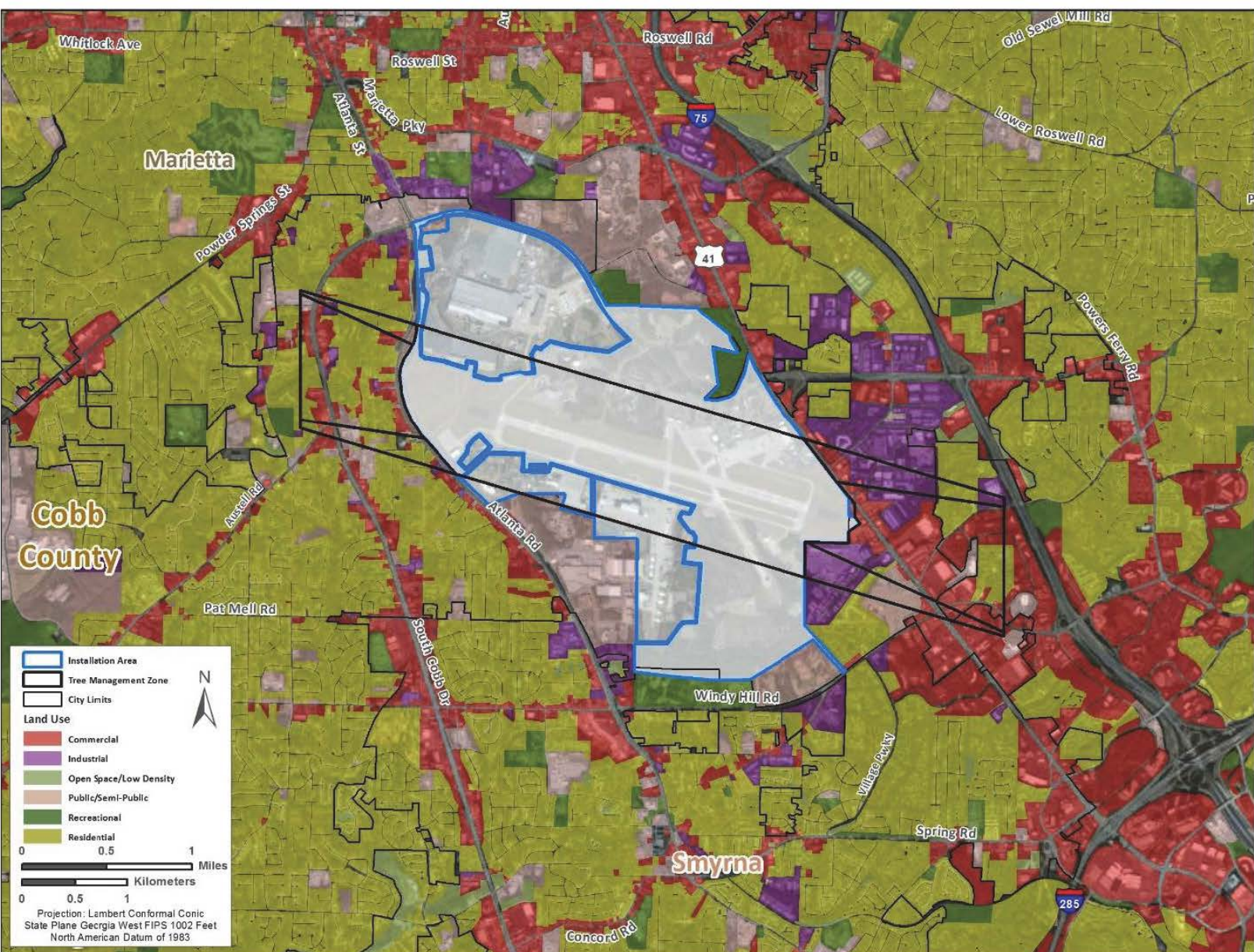


Figure 3-2. Existing Off-Installation Vicinity Land Use Map

**Table 3-5. Soil Description Criteria**

<b>Criteria</b>	<b>Definition</b>
Slope	The inclination of the land surface from a horizontal position defined as the vertical distance divided by the horizontal distance as a percent.
Erodability	The potential of a soil to erode based on its physical and chemical properties and other environmental factors expressed as a numerical index (i.e., the higher the number the more potential for erosion).
Permeability	The ability of water to move downward through saturated soil measured as inches per hour.
Shrink-Swell	The contraction (shrinking) of soil when dry and expansion (swelling) of soil when wet.

Source: NRCS 1993

Note: Soils are typically described as series, associations, or complexes. A soil series is the most basic of such classifications, while soil associations and complexes provide greater detail with respect to soil composition and other factors such as slope and erosion potential.

### 3.4.2. Affected Environment

**Topography.** Dobbins ARB is located within the Central Uplands District of the Piedmont Physiographic Province (hereafter, “the Piedmont”). The topography of the region is characterized by moderately sloped hills and broad ridges that define various stream valleys. On the installation, the topography exhibits a gradual slope toward the southeast with elevations ranging from 950 feet above mean sea level (MSL) along the eastern boundary to 1,100 feet above MSL along the western boundary (Dobbins ARB 2007).

The topography in the Approach and Transitional Zones on the West End slopes down toward Olley Creek to the northwest with elevations ranging from 1,020 feet above MSL to 1,100 feet above MSL to the east. The topography in the Approach and Transitional Zones on the East End slopes towards Poorhouse Creek. Elevations range from 920 feet above MSL along Poorhouse Creek to 1,060 feet above MSL to the southeast.

**Geology.** Georgia lies on a passive continental margin with a stable transition between continental and oceanic crust. The Piedmont is an area that contains moderate-to-high grade metamorphic rocks. The Piedmont also contains an abundance of mineral resources such as stone, granite, and soapstone. A major geologic feature of this Province is the Brevard Fault Zone which runs in a southwest-northeast direction across the state including the area underlying northwest Atlanta. Dobbins ARB is at minimal risk from geologic hazards since Georgia lies on a passive continental margin with a stable transition between continental and oceanic crust. The U.S Geological Survey produced seismic hazard maps based on current information about the frequency and intensity of earthquakes. The maps show the levels of horizontal shaking that have a 2 in 100 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of the force of gravity (percent g) and is proportional to the hazard faced by a particular type of building. In general, little or no damage is expected at values less than 10 percent g. The 2008 National Seismic Hazard map produced by the U.S Geological Survey shows that Dobbins ARB has a seismic hazard rating of approximately 8 to 10 percent g (UEHPG 2011), making the risk of damage from seismic activity minimal.

**Soils.** Georgia soils of the Piedmont are commonly red in color due to the presence of clay minerals and iron oxides that result from the weathering of feldspar-rich igneous and metamorphic rocks. Natural Resources Conservation Service soil surveys indicate that soils on and around Dobbins ARB are predominately micaceous silts and micaceous sandy silts derived from the weathering of underlying rock.

The two main soil associations on-installation are the Madison-Gwinnett-Cecil and the Madison-Gwinnett-Pacolet associations both of which are characterized by well-drained sand and clay loams on the surface and sub-surface (Dobbins ARB 2012c). Due to agricultural use prior to the establishment of the installation in 1942 and subsequent development, many of the native soil profiles on Dobbins ARB have been disturbed or destroyed. Much of the original topsoil has been eroded, exposing clayey subsoils (Dobbins ARB 2012f).

Soils located beyond the west end of the runway and off the installation are predominately urban due to past development activities. Hydric soils generally follow Olley Creek through the northwest portion of the Approach and Transitional Zones. Soil conditions in the southwest portion of the Approach and Transitional Zones are composed of the Madison and Pacolet series.

Soils located beyond the east end of the runway and off the installation are comparatively more diverse although past development activities have resulted in a significant amount of disturbed, urban soils. Within the Approach Zone, clay and sandy loams are most prominent, in particular the Madison, Gwinnett, and Appling soil series, among others. Hydric soils are found in areas adjacent to Poorhouse Creek. Soil conditions within the Transitional Zones are similar to those found in the Approach Zone; however, the western portion of the Transitional Zone (north of the Approach Zone) is largely composed of urban soils whereas the western portion of the Transitional Zone (south of the Approach Zone) contains a large amount of hydric soils in the vicinity of Poorhouse Creek.

**Table 3-6** describes soil conditions in the vicinity of Dobbins ARB, and **Figure 3-3** depicts these soils in relation to the tree management zones.

**Prime and Unique Farmland.** According to Natural Resources Conservation Service data, the Cecil and Madison sandy loams are designated as prime farmland (Dobbins ARB 2012e). However, the lands are disturbed and not currently available for agriculture and would not likely be used for agriculture in the future. Therefore, FPPA documents do not apply.

### 3.5. Water Resources

#### 3.5.1. Definition of the Resource

Hydrology consists of the redistribution of water through the processes of evapotranspiration, surface runoff, and subsurface flow. Hydrology results primarily from (1) temperature and total precipitation that determine evapotranspiration rates, (2) topography that determines rate and direction of surface flow, and (3) soil and geologic properties that determine rate of subsurface flow and recharge to the groundwater reservoir.

Groundwater consists of subsurface hydrologic resources. It is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial processes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Surface water resources generally consist of wetlands, lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale.

Waters of the United States are defined within the Clean Water Act (CWA), as amended, and jurisdiction is addressed by the USEPA and the U.S. Army Corps of Engineers (USACE). These agencies assert jurisdiction over (1) traditional navigable waters, (2) wetlands adjacent to navigable waters, (3) nonnavigable tributaries of traditional navigable waters that are relatively permanent where the



**Table 3-6. Soil Characteristics in the Vicinity of Dobbins ARB**

<b>Soil Series</b> <i>Characteristics</i>	<b>General Description</b>
<b>Appling</b> <i>Slope: 2 to 10 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Very deep, well-drained soils found on upland ridges and steep side slopes.
<b>Cecil</b> <i>Slope: 0 to 25 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Very deep, well-drained soils found on upland ridges and steep side slopes.
<b>Cartecay</b> <i>Slope: 0 to 5 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate to High</i>	Poorly drained hydric soils <sup>1</sup> found in the valleys of streams and adjoining areas typical of floodplains.
<b>Chewacla</b> <i>Slope: 0 to 2 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Very deep, poorly drained hydric soils <sup>1</sup> found in the valleys of streams and adjoining areas typical of floodplains.
<b>Durham</b> <i>Slope: Nearly Level</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Deep, well-drained soils found along ridgelines.
<b>Gwinnett</b> <i>Slope: 2 to 60 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Deep, well-drained soils found on gently sloping to very steep ridgelines.
<b>Louisburg</b> <i>Slope: 6 to 45 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate to High</i>	Very deep, well-drained soils found on upland summits and side slopes.
<b>Louisa</b> <i>Slope: 6 to 80 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: High</i>	Shallow, very well-drained soils found on upland slopes.
<b>Madison</b> <i>Slope: 2 to 60 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Well-drained soils found on gently sloping to steep uplands.
<b>Musella</b> <i>Slope: 2 to 80 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate to High</i>	Shallow, well-drained upland soils.
<b>Pacolet</b> <i>Slope: 10 to 25 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate</i>	Very deep, well-drained upland soils.

Soil Series <i>Characteristics</i>	General Description
<b>Toccoa</b> <i>Slope: 0 to 4 percent</i> <i>Shrink-Swell: Low</i> <i>Permeability: Moderate to High</i>	Very deep, relatively well-drained soils found on floodplains.
<b>Urban<sup>2</sup></b> <i>Variable</i>	Soils in areas which have been previously disturbed or altered from excavation and construction activities.

Source: Dobbins ARB 2012c

Notes:

1. Hydric soils are one of three criteria used to determine the presence of USACE jurisdictional wetlands.
2. Due to land development activities on and around Dobbins ARB, many native soil profiles are classified as “urban” or “previously disturbed.”

tributaries typically flow year-around or have continuous flow at least seasonally, and (4) wetlands that directly abut such tributaries. Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill into waters of the United States including wetlands. Encroachment into waters of the United States and wetlands requires a permit from the state and the Federal government. An encroachment into wetlands or other “waters of the United States” resulting in displacement or movement of soil or fill materials has the potential to be viewed as a violation of the CWA if an appropriate permit has not been issued by USACE. In Georgia, USACE has primary jurisdictional authority to regulate wetlands and waters of the United States.

A water body can be deemed impaired if water quality analyses conclude that exceedances of water quality standards, established by the CWA, occur. The CWA requires that states establish a Section 303(d) list to identify impaired waters and establish Total Maximum Daily Loads (TMDLs) for the sources causing the impairment. A TMDL is the maximum amount of a substance that can be assimilated by a water body without causing impairment.

Wetlands are also protected under EO 11990, *Protection of Wetlands*, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This order directs Federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands. In furtherance of NEPA, agencies shall avoid undertaking or assisting in new construction in wetlands unless there is no practical alternative.

As a result of the above-mentioned state and Federal regulations, it is the responsibility of the USAF to identify jurisdictional waters of the United States (including wetlands) occurring on USAF installations that have the potential to be impacted by installation activities. Such impacts include construction of roads, buildings, runways, taxiways, navigation aids, and other appurtenant structures; or activities as simple as culvert crossings of small intermittent streams, rip-rap placement in stream channels to curb accelerated erosion, and incidental fill and grading of wet depressions.

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters. The living and nonliving parts (e.g., vegetation and soil) of natural floodplains interact with each other to create dynamic systems in which each component helps to maintain the characteristics of the environment that supports it. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and a diversity of plants and animals. Floodplains provide a broad area to inundate and temporarily store floodwaters. This reduces flood peaks and velocities and the potential for erosion. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body (FEMA 1986).

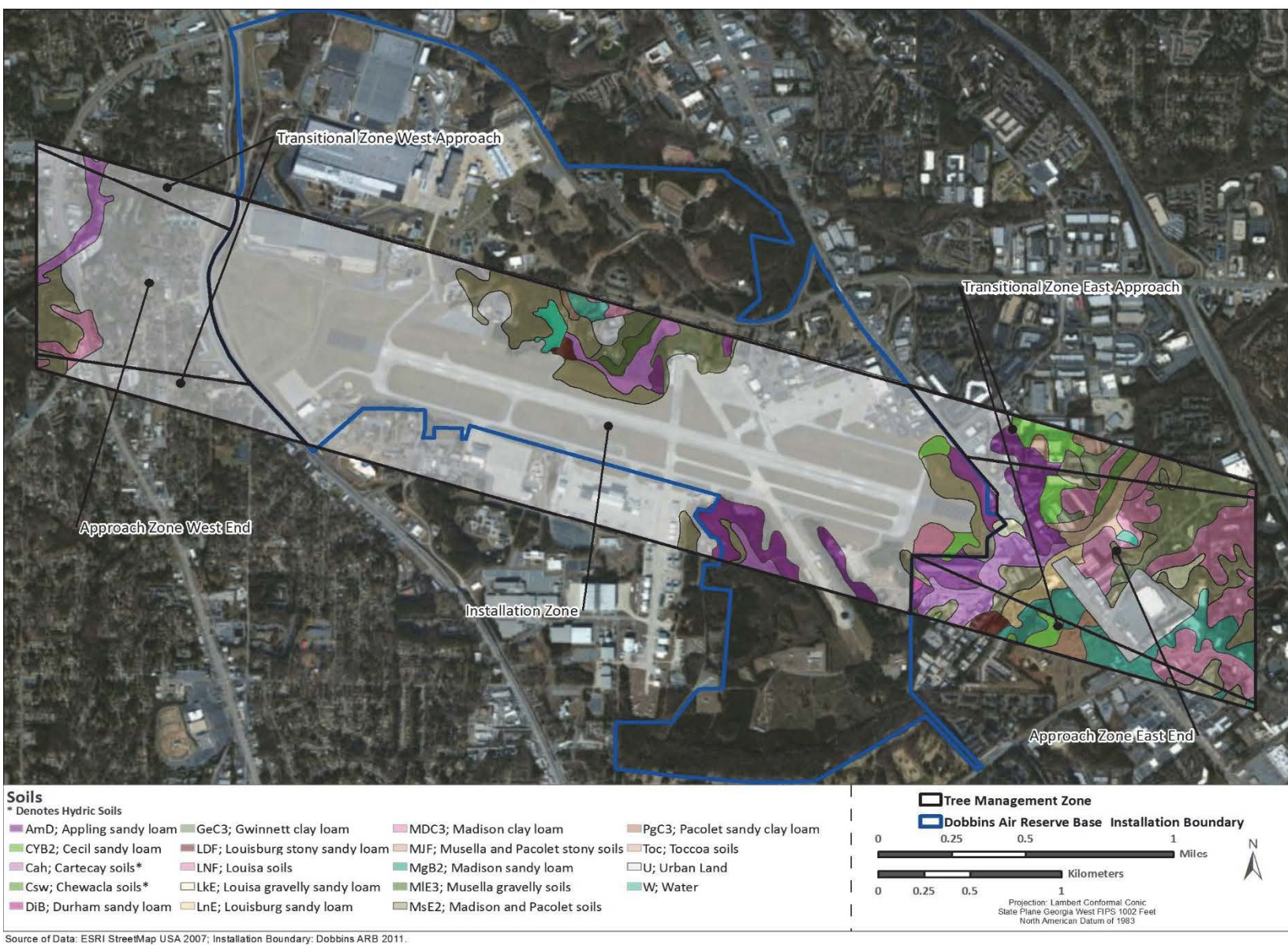


Figure 3-3. Soils Map

Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. Risk of flooding typically hinges on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain. The 100-year floodplain is the area that has a 1 percent chance of inundation by a flood event in a given year. Certain facilities inherently pose too great a risk to be in either the 100- or 500-year floodplain, such as hospitals, schools, or storage buildings for irreplaceable records. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to human health and safety.

EO 11988, *Floodplain Management*, requires Federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of FEMA Flood Insurance Rate Maps (FIRMs), which contain enough general information to determine the relationship of the project area to nearby floodplains. EO 11988 directs Federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative.

The Deputy Assistant Secretary of the Air Force – Environment, Safety, and Occupational Health or another designated official must sign a FONPA before any action within a Federal wetland or floodplain may proceed as specified in Secretary of the Air Force Order 780.1. In preparing a FONPA, the installation must consider the full range of practicable alternatives that will meet justified program requirements, are within the legal authority of the USACE, meet technology standards, are cost-effective, do not result in unreasonable adverse environmental impacts, and other pertinent factors. After the practicality of alternatives has been fully assessed, a statement regarding the FONPA should be made into the associated FONSI or record of decision.

### 3.5.2. Affected Environment

**Groundwater.** Groundwater under Dobbins ARB consists of a surficial water table and bedrock aquifers; however, the bedrock aquifers beneath the installation are generally not productive and contain a high concentration of minerals (Dobbins ARB 2010a). Groundwater in the northern Piedmont Physiographic Province, encompassing all tree management zones, occurs predominantly in joints and fractures in the bedrock and in the pore spaces of the overlying residual soils. Recharge is principally from rainfall that either seeps downward through the residuum or flows into openings in exposed rock (Dobbins ARB 2010b). The depth to groundwater is generally high but varies depending on the location, topography, soil conditions, and season (Dobbins ARB 2010a).

**Surface Water.** Dobbins ARB is within the Rottenwood Creek and Poorhouse Creek watersheds, which drain into the Chattahoochee River approximately 3.5 miles southeast of the installation. There are 2 man-made lakes on the installation (Big Lake and Little Lake), 28 delineated streams and tributary stream reaches, 5 spill retention ponds, 3 sedimentation detention basins, and 4 storm water retention basins. The spill retention ponds act as containment basins for potential petroleum, oil, and lubricants (POL) spills that could occur near the flight line, while the sedimentation basins are used for storm water and sediment retention. The installation is drained throughout by a series of storm sewers and ditches. Storm water exits through outfalls surrounding the installation boundary. The southern outfalls of the installation drain into Poorhouse Creek and the northern outfalls drain into Rottenwood Creek (Dobbins ARB 2012c).

Poorhouse Creek runs through the Approach and Transitional Zones on the East End. Several man-made ponds also occur within the Approach Zone on the East End. Olley Creek crosses through the Approach and Transitional Zones on the West End. No other surface water features occur within these zones (FEMA 2013).



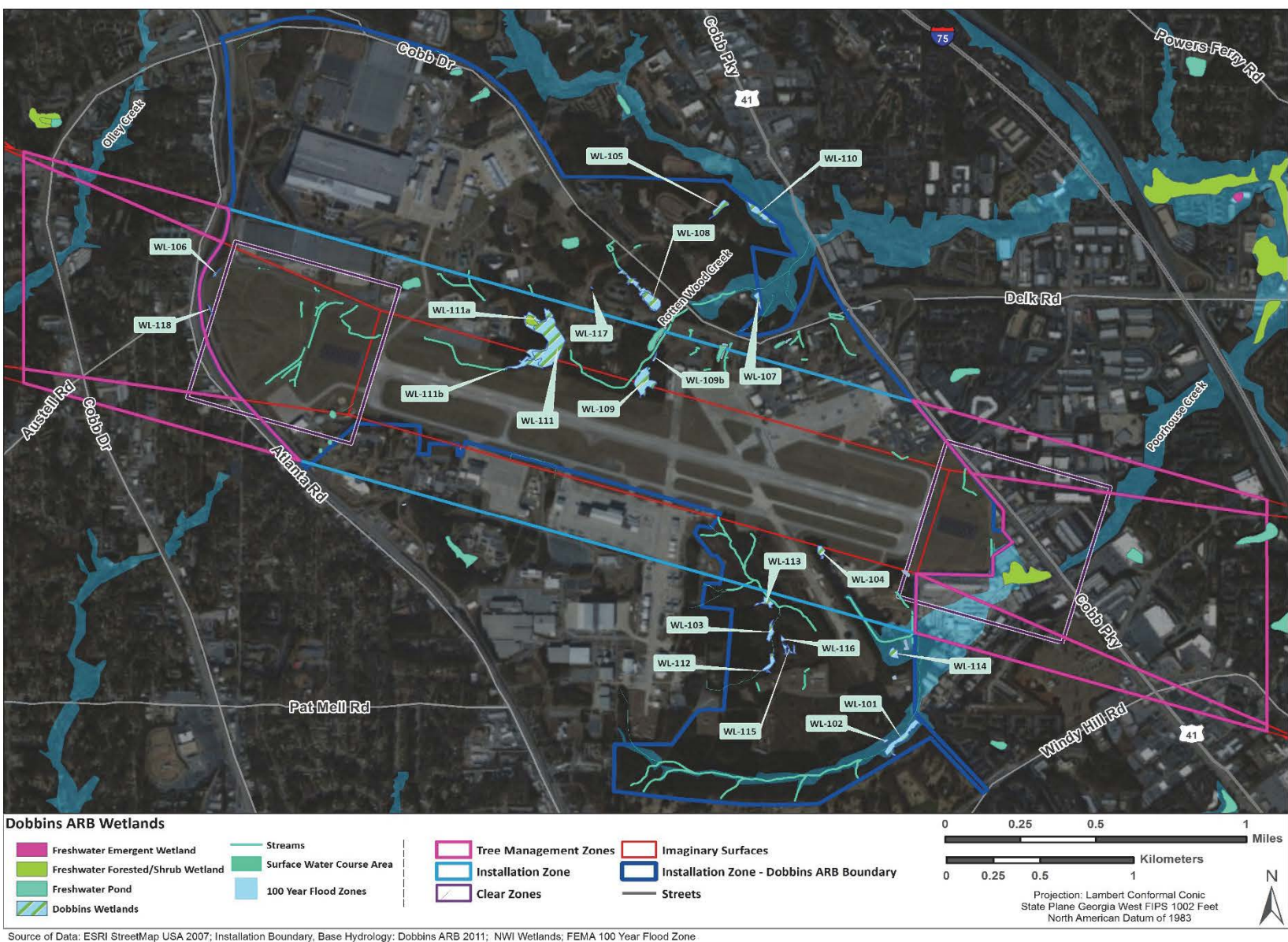


Figure 3-4. Water Resources in the Project Area

**Wetlands/Floodplains.** Dobbins ARB has 21 wetland areas totaling approximately 23 acres as determined in a 2009 wetland delineation. The wetlands are predominantly found along Rottenwood Creek, Poorhouse Creek, and surrounding Big Lake and Little Lake (Dobbins ARB 2009). Wetlands within the Installation Zone on Dobbins ARB include those associated with of Big Lake (W-111, W-111b), adjacent to an unnamed perennial stream that flows to the east from the dam and spillway at Big Lake (W-109), and associated with an intermittent, tributary stream (W-104). Wetlands along the western end of the installation (W-106 and W-118) do not have woody vegetation and are not discussed further. **Figure 3-4** provides a map of the delineated wetlands and their proximity to the proposed tree management zones.

No wetlands are within the Approach Zone on the West End or the transitional zones; however, a forested/shrub wetland is 500 feet northwest of the Transitional Zone on the West Approach. There are three wetlands within the Approach Zone on the East End. Approximately 6 acres of forested/shrub wetland occurs just outside of the eastern installation boundary. A small 1.5-acre freshwater pond is approximately 0.5 miles to the east. A 2.5-acre freshwater pond is in the northeast corner of this approach zone (see **Figure 3-4**).

Tree management in the Installation Zone would not occur within the 100-year floodplain (Dobbins ARB 2009). The Approach Zone on the East End has floodplains associated with Poorhouse Creek primarily within Zone AE, which includes the base 100-year floodplain where elevations are provided and Zone X, which generally represents the area between the 100- and 500-year floodplain (see **Figure 3-4**). The Approach Zone on the West End has floodplains associated with Olley Creek also primarily within Zone AE, Zone X, and Zone A, which represent areas within the 100-year floodplain that do not have detailed elevations or depths (FEMA 2013).

## **3.6. Biological Resources**

### **3.6.1. Definition of the Resource**

Biological resources include native or naturalized plants and animals and the habitats (e.g., grasslands, forests, and wetlands) in which they exist. Protected and sensitive biological resources include Endangered Species Act- (ESA) listed species (threatened or endangered) and those proposed for ESA listing as designated by the U.S. Fish and Wildlife Service (USFWS); state-listed threatened, endangered, or special concern species; migratory birds; and bald and golden eagles. Sensitive habitats include those areas designated by the USFWS as critical habitat protected by the ESA and as sensitive ecological areas designated by state or other Federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or limited in distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer and winter habitats).

The ESA (16 U.S.C. §1531 et seq.) establishes a Federal program to protect and recover imperiled species and the ecosystems upon which they depend. The ESA requires Federal agencies, in consultation with the USFWS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. Under the ESA, “jeopardy” occurs when an action is reasonably expected, directly or indirectly, to diminish numbers, reproduction, or distribution of a species so that the likelihood of survival and recovery in the wild is appreciably reduced. An “endangered species” is defined by the ESA as any species in danger of extinction throughout all or a significant portion of its range. A “threatened species” is defined by the ESA as any species likely to become an endangered species in the foreseeable future. Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as threatened or endangered under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority

listing activities. The ESA also prohibits any action that causes a “take” of any listed species. “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.”

State-protected species in Georgia are protected under the Georgia Wildflower Preservation Act of 1973 and the Georgia Endangered Wildlife Act of 1973. The Rules and Regulations of the GADNR, Wildlife Resources Division for the Protection of Endangered, Threatened, Rare, or Unusual Species (Chapter 391-4-10) establish the procedures to be followed in the protection of endangered species of plant and animal life, as authorized by these acts.

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703–712), as amended, and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, require Federal agencies to minimize or avoid impacts on migratory birds. Unless otherwise permitted by regulations, the Migratory Bird Treaty Act makes it unlawful to (or attempt to) pursue, hunt, take, capture, or kill any migratory bird, nest, or egg. If design and implementation of a Federal action cannot avoid measurable negative impacts on migratory birds, EO 13186 directs the responsible agency to develop and implement, within 2 years, a Memorandum of Understanding with the USFWS that shall promote the conservation of migratory bird populations.

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668–668c), as amended, which prohibits the “take” of bald or golden eagles in the United States. The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” For purposes of these guidelines, “disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause: (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” based on the best scientific information available. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

### 3.6.2. Affected Environment

**Vegetation.** The majority of land on Dobbins ARB is either improved or semi-improved and is dominated by domestic grasses such as Bahia grass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*) (Dobbins ARB 2010a). Forested habitat accounts for the vast majority of unimproved land on Dobbins ARB. The *Integrated Natural Resource Management Plan at Dobbins ARB* divides forested area on the installation into Dobbins northern forest compartment (DN) and Dobbins southern forest compartment (DS) with the airfield serving as the dividing line (see **Figure 3-5**). The forest compartments are further divided into forest stands based on forest stand characteristics and site management objectives. The northern compartment has 12 stands (DN-1 through DN-12) totaling approximately 171.5 acres. The southern compartment has 17 stands (DS-1 through DS-17) totaling approximately 308 acres (Dobbins ARB 2012b). These forests are dominated by loblolly pine though lesser amounts of short-leaf pine (*P. echinata*) and Virginia pine (*P. virginiana*) also occur (Dobbins ARB 2012c). Dominant vegetation targeted for management in the Installation Zone includes loblolly pine, yellow poplar, white oak, sweet gum, American elm, river birch, and red maple.

The most widespread and invasive plant species found on Dobbins ARB are privet (*Ligustrum sinensis* and *L. japonicum*), Japanese honeysuckle (*Lonicera japonica*), Chinese wisteria (*Wisteria sinensis*), mimosa (*Albizia julibrissin*), and Japanese stiltgrass (*Microstegium vimineum*). Autumn olive (*Elaeagnus*



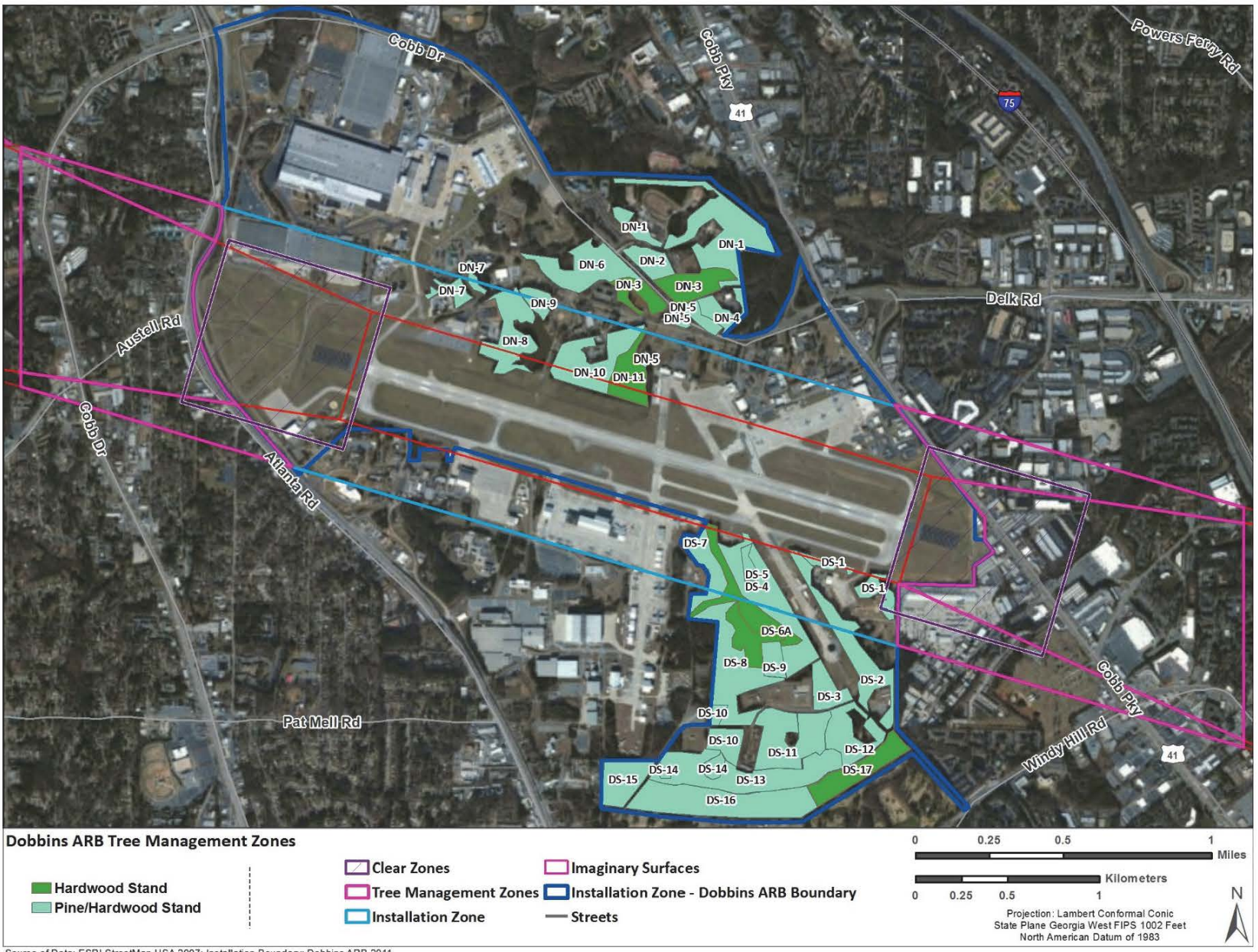


Figure 3-5. Forest Stands on Dobbins ARB



*umbellata*), English ivy (*Hedera helix*), princess tree (*Paulownia tomentosa*), sericea lespedeza (*Lespedeza cuneata*), multiflora rose (*Rosa multiflora*), and tree of heaven (*Ailanthus altissima*) are other less abundant, nonnative species that have been documented at Dobbins ARB (Dobbins ARB 2012c).

Land off-installation is generally improved or semi-improved, similar to Dobbins ARB. The Approach and Transitional Zones on the West End are primarily residential, urban properties, with commercial properties along Atlanta Highway. Target vegetation in this area consists of white oak, yellow poplar, southern magnolia, live oak, and pecan trees. The Approach and Transitional zones on the East End are primarily commercial, with residential developments along Terrell Mill Road. Most of the target vegetation consists of loblolly pines on bluffs (Dobbins ARB 2012b).

**Wildlife.** The most abundant native birds in the vicinity of Dobbins ARB include the wild turkey (*Meleagris gallopavo*), northern bobwhite (*Colinus virginianus*), mourning dove (*Zenaidura macroura*), northern cardinal (*Cardinalis cardinalis*), tufted titmouse (*Baeolophus bicolor*), and eastern towhee (*Pipilo erythrophthalmus*). Canada geese (*Branta canadensis*), common grackles (*Quiscalus quiscula*), red-winged blackbirds (*Agelaius phoeniceus*), and rusty blackbirds (*Euphagus carolinus*) are also common native species. European starlings (*Sturnus vulgaris*) and house sparrows (*Passer domesticus*) are common nonnative bird species at Dobbins ARB (Dobbins ARB 2012c).

Dominant mammalian species include the white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), and opossum (*Didelphia virginiana*) (Dobbins ARB 2012c). The box turtle (*Terrapene carolina*), common garter snake (*Thamnophis sirtalis*), northern watersnake (*Nerodia sipedon*), and eastern kingsnake (*Lampropeltis getula*) are characteristic reptilian species. Commonly observed amphibians include spring peeper (*Pseudacris crucifer*) and chorus frog (*Pseudacris triseriata*). A fish survey conducted in 2007 found largemouth bass (*Micropterus salmoides*) and eastern mosquitofish (*Gambusia affinis*) in Big Lake (Dobbins ARB 2012c). Wildlife off-installation would be similar to those found on the installation.

**Protected and Sensitive Species.** The species discussed as follows are protected or sensitive as described by state and Federal law. They are discussed in order of their protected status on-installation, then off-installation. No federally listed threatened, endangered, or candidate species are known to occur on Dobbins ARB. A reconnaissance survey of potential habitats for listed species on Dobbins ARB was conducted in 2007 and found no federally or state-listed threatened, endangered, or candidate species on the installation (Dobbins ARB 2012c). No state-protected species were discovered. Two plant species on the Georgia Natural Heritage Program's species of concern list were identified in 1993 during surveys conducted by The Nature Conservancy, including the broadleaf bunchflower (*Melanthium latifolium*) and the pink ladyslipper (*Cypripedium acaule*). Only a solitary broadleaf bunchflower was found. The plant was transplanted by The Nature Conservancy to the Chattahoochee Nature Center in 1993 for study. No special management considerations are required for the broadleaf bunchflower (Dobbins ARB 2012c). Six populations of pink ladyslipper, which is listed as unusual by the GADNR and protected under the State of Georgia Wildflower Protection Act of 1973, have been documented on Dobbins ARB. These pink ladyslipper populations range in size from less than 10 to more than 2,000 individuals and occur in open portions of the mature pine/pine hardwood stands on Dobbins ARB. Currently, no occurrences of pink ladyslipper have been documented within the Installation Zone (Dobbins ARB 2012c).

The majority of birds that occur on and in the vicinity of Dobbins ARB are migratory species as defined in 50 CFR 10.13 and are therefore protected under the Migratory Bird Treaty Act and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (Dobbins ARB 2012c).

Several Federal- and state-listed species are found off-installation in Cobb County. The federally endangered Etowah darter (*Etheostoma etowahae*) and amber darter (*Percina antesella*) and the federally threatened Cherokee darter (*Etheostoma scotti*) and finelined pocketbook (*Lampsilis altilis*) are associated with the Mobile River Basin. There are no tributaries of the Mobile River Basin within the tree management zones and these species have not been identified within the project area (GADNR 2013, USFWS 2013). As a result, these species are not discussed further.

The gulf moccasinshell (*Medionidus penicillatus*) is a federally endangered clam within the Chattahoochee River watershed, but has not been identified in the project area (USFWS 2007). Little amphianthus (*Amphianthus pusillus*) and Michaux's sumac (*Rhus michauxii*) are federally threatened and endangered plant species, respectively, that could be found in Cobb County. These Federal species have habitat requirements that have not been identified in the project area and are not likely to occur in the tree management zones (GADNR 2013). Georgia aster (*Melanthium latifolium*), a candidate species, is a perennial herb associated with the Chattahoochee River watershed that is listed as potentially extirpated from Cobb County (GADNR 2013, NatureServe 2013).

The Indiana bat (*Myotis sodalis*), a federally endangered species, does not have any known hibernacula in Georgia and no known occurrences of the Indiana bat have been documented in Cobb County. However, the bats have been moving south from their hibernacula to roosts in northern Georgia. In general, females disperse farther than males to establish maternal colonies primarily in the dead snags of loblolly and short-leaf pine, among others. Males, non-reproductive females, and volant pups can use almost any forested habitat (Rickard 2013).

There are several state-listed species that could occur in Cobb County. Delicate spike (*Elliptio arctata*), a state-endangered species, is a freshwater mussel, also associated with the Chattahoochee River watershed. This species has the potential to occur in the Approach and Transitional Zones on the West End; but is listed as potentially extirpated from Cobb County (GADNR 2013, NatureServe 2013). Two species of special concern, the yellow-crowned night heron (*Nyctanassa violacea*) and northern pine snake (*Pituophis melanoleucus melanoleucus*) have also been identified as occurring in the Approach and Transitional Zones on the West End (GADNR 2013). In addition to the protected and sensitive species that could occur in the Approach and Transitional Zones on the West End and the Installation Zone, Henslow's sparrow (*Ammodramus henslowii*), a state-rare bird, sculptured pigtoe (*Quadrula infucata*), a state-listed species of special concern, and several state-listed plants, including mountain witch-alder (*Fothergilla major*), Indian olive (*Nestronia umbellula*), and bay star-vine (*Schisandra glabra*), have the potential to occur in the Approach and Transitional Zones on the East End (see **Table 3-7** for a list of species with the potential to occur in the project area).

### 3.7. Cultural Resources

#### 3.7.1. Definition of the Resource

Cultural resources is an “umbrella term” for many heritage-related resources, including prehistoric and historic sites, buildings, structures, districts, objects, or any other physical evidence of human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason.

Several Federal laws and regulations govern protection of cultural resources, including the National Historic Preservation Act (NHPA) (1966), the American Indian Religious Freedom Act (1978), the Archaeological Resources Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). Cultural resources are commonly subdivided into archaeological resources (prehistoric or historic sites where human activity has left physical evidence of that activity but no

Table 3-7. Federal- and State-listed Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Federal Status	State Status	General Habitat Requirements
<b>Mammals</b>				
Indiana bat†	<i>Myotis sodalis</i>	E	E	Maternity sites generally behind loose bark of dead or dying trees or in tree cavities. Forage in riparian areas, upland forests, ponds, and fields. Prefer forested habitat.
<b>Birds</b>				
Henslow's sparrow	<i>Ammodramus henslowii</i>	NL	R	Typically grassland, herbaceous habitat; winter/migrating habitat also includes grassy areas adjacent to pine/second growth woods.
Yellow-crowned night heron	<i>Nyctanassa violacea</i>	NL	SC	Marshes, swamps, lakes, lagoons, and mangroves; primarily coastal.
<b>Reptiles</b>				
Northern pine snake	<i>Pituophis melanoleucus</i>	NL	SC	Prefer flat and dry habitats with open canopies; also found in longleaf pine or oak forests.
<b>Fish</b>				
Highscale shiner	<i>Notropis hypsilepis</i>	NL	R	Flowing areas of small to large streams over sand or bedrock substrates as typified by streams in the southern edge of the Piedmont near the Fall Line.
<b>Invertebrates</b>				
Chattahoochee crayfish	<i>Cambarus howardi</i>	NL	T	Riffle areas of streams under rocks.
Delicate spike	<i>Ellioptio arcata</i>	NL	E	River shorelines, among and under rocks, from sand to gravel.
Gulf moccasinshell mussel	<i>Medionidus penicillatus</i>	E	E	Variety of riverine habitats, from sandy areas with slight current to moderate current and sand and gravel substrates.
Sculptured pigtoe	<i>Quadrula infucata</i>	NL	SC	Muddy sand or sand with moderate current.
<b>Plants</b>				
Little amphianthus	<i>Amphianthus pusillus</i>	T	T	Vernal pools on granite outcrops.
Pink ladyslipper	<i>Cypripedium acaule</i>	NL	U	Upland oak-hickory-pine forests; primarily in acid soils of pine-dominated forests.

Common Name	Scientific Name	Federal Status	State Status	General Habitat Requirements
Mountain witch-alder	<i>Fothergilla major</i>	NL	SC	Dry ridgetop forests of middle elevation, north-facing bluffs,
Broadleaf bunchflower	<i>Melanthium latifolium</i>	NL	SC	Rich hardwood forest from lower slopes with streams to north-facing ridgetops.
Indian olive	<i>Nestronia umbellula</i>	NL	R	Found in dry, open, upland forests of mixed hardwood and pine; often in transition areas between flatwoods and uplands.
Michaux's sumac	<i>Rhus michauxii</i>	E	E	Sandy or rock open woods, with soils derived from mafic rock.
Bay star-vine	<i>Schisandra glabra</i>	NL	T	Rich woods on stream terraces and lower slopes; alluvial communities.
Georgia aster	<i>Symphyotrichum georgianum</i>	C	T	Upland oak-hickory-pine forests and openings; adjacent to woodland borders and in openings; sometimes with <i>Echinacea laevigata</i> or over amphibolites.

Sources: USFWS 2013, GADNR 2013, Dobbins ARB 2012c, NatureServe 2013

Note: † = Indiana bats are not currently in Cobb County, but have the potential to use habitat in the county in the future.

Key:

E = listed as endangered by the USFWS or GADNR

T = listed as threatened by the USFWS or GADNR

R = listed as rare by GADNR

U = listed as unusual by GADNR

SC = listed as special concern by GADNR

NL = not listed by the USFWS or GADNR

structures remain standing), architectural resources (buildings or other structures or groups of structures that are of historic architectural, or other significance), and traditional cultural resources (for example, traditional gathering areas).

The NHPA defines historic properties as properties eligible for or listed in the National Register of Historic Places (NRHP). The NRHP is the official listing of properties significant in U.S. history, architecture, or prehistory, and includes both publicly and privately owned properties. The NRHP list is administered by the National Park Service. Historic properties might be buildings, structures, prehistoric or historic archaeological sites, districts, or objects that are generally 50 years of age or older, are historically significant, and that retain integrity that conveys this significance. More recent resources, such as Cold War-era buildings, might warrant listing if they have the potential to gain significance in the future or if they meet “exceptional” significance criteria.

Section 106 of the NHPA requires agencies to take into account the effect of their undertakings on properties listed in or eligible for listing in the NRHP and to afford the ACHP a reasonable opportunity to comment on the undertaking.

### 3.7.2. Affected Environment

The current site of Dobbins ARB and AFP-6 has been occupied since prehistoric eras, and was the site of several farms and communities starting as early as 1832 and continuing until the establishment of the installation in the 1940s (Dobbins ARB 2012f).

Compliance with the NHPA, in consultation with the Georgia SHPO, has resulted in the identification of a number of historic resources at Dobbins ARB and its associated facilities. Of the resources that predate the installation, the Bankston Rock House is listed in the NRHP. Big Lake Dam was previously determined eligible for listing in 1996, but underwent structural repairs in 2008 that negatively impacted its historical integrity. This work was carried out in coordination with the Georgia SHPO under Section 106 of the NHPA. A Programmatic Agreement was entered into by the Air Force and the Georgia SHPO and the dam was documented to Historic American Engineering Records (HAER) standards before construction began. The Sibley-Gardner House is an antebellum structure on the northwest side of the installation that has been determined not eligible for listing in the NRHP due to the loss of context created by the construction of AFP-6. Likewise, the Little Lake Dam has been determined ineligible for listing in the NRHP. The Mount Sinai Cemetery, dating to the 1890s, has not been evaluated for NRHP eligibility, but is treated as a sacred space (Dobbins ARB 2012f).

Several archaeological investigations have occurred on Dobbins ARB. These include reconnaissance surveys of both specific, suspected archaeological sites and of construction sites for compliance with cultural resource laws. No surveys have identified any NRHP-eligible archaeological sites. Despite the presence of other important Civil War-related sites in the Dobbins ARB vicinity, it is suspected that none exist on the installation due to the land disturbance over time by farming and construction (Dobbins ARB 2012f). However, there is demonstrated concern that there might be archaeological resources related to the Sibley-Gardner house and its possible use as a field hospital during the Civil War. Additionally, oral history relates the presence of an early spring near the house, which could indicate prehistoric occupation (Dobbins ARB 2012f).

All resources on the installation are outside of the tree management zones with the exception of the Big Lake Dam, which is within the Installation Zone.

Eight buildings that make up AFP-6, in the northwestern corner of Dobbins ARB, have been determined to be contributing to the NRHP-eligible Bell Bomber Historic District. These buildings include the main manufacturing facilities and essential auxiliary buildings, such as the steam plant and water pumping station (Dobbins ARB 2012f). The Bell Bomber Historic District is directly adjacent to the Installation Zone.

There are five NRHP-listed districts within the City of Marietta. None of these are within the immediate vicinity of Dobbins ARB or the tree management zones established for this project (City of Marietta 2013a). There is one known identified resource in the management zones outside of the installation. This single-family house on Walthall Avenue, west of the installation, was surveyed as part of a 2007 comprehensive survey of unincorporated Cobb County. The survey does not state whether the house, at 244 Walthall Avenue is considered to be NRHP-eligible, though it does note that the house is a “nice” example of the Craftsman style and has good integrity (GANAHR 2007). Other houses along Walthall Avenue appear to be of historic age, though none have been surveyed. There are no known historic resources elsewhere in the western tree management zones or in any of the eastern tree management zones.

## 3.8. Infrastructure

### 3.8.1. Definition of the Resource

Infrastructure consists of the physical, man-made systems and structures that enable a community to function, including roadway networks, energy distribution systems, water and wastewater systems, storm water conveyance structures, solid waste landfills, and communications (Dobbins ARB 2012d).

### 3.8.2. Affected Environment

**Transportation.** The transportation network at Dobbins ARB consists of roadways that service the region and local communities beyond the installation, and the internal roadway network that connects to the larger system. Regional access to Dobbins ARB is primarily associated with Interstate (I)-75 to the east of the installation which provides direct access to Atlanta, Georgia, to the southeast. I-285, located approximately 4 miles to the southeast of Dobbins ARB, adjoins I-75 and is the primary east-west corridor in proximity to the installation. It connects with I-85 to the east and I-20 to the west.

Secondary and tertiary roads provide access to the communities around Dobbins ARB, including Marietta, Fair Oaks, and Smyrna. South Cobb Parkway (U.S. 41), a five-lane road accessible from I-285, forms the boundary of the installation and provides direct access to the main gate located at the Cobb Parkway Southeast intersection. Atlanta Road connects to South Cobb Drive and Windy Hill Road both of which provide access to I-75. The main transportation routes on Dobbins ARB are Atlantic Avenue and Gym Road. Secondary roadways that connect to Atlantic Avenue provide access to the majority of facilities located on-installation. For example, Dobbins Place runs south from Atlantic Avenue connecting to Tuskegee Airmen Avenue, a tertiary road that runs southwest of Atlantic Avenue towards the airfield flight line (Dobbins ARB 2010a). **Figure 3-6** depicts the transportation network within and around Dobbins ARB to include “primary” roads (i.e., high volume), “secondary” roads (i.e., collection and distribution to/from “primary” roads [medium volume]), and “tertiary” roads (i.e., collection and distribution to/from “secondary” roads [low volume]).

Tree management zones off-installation are west and east of the Dobbins ARB runway. To the west, Atlanta Road SW parallels the installation boundary and runs in a north-south direction through the Approach and Transitional Zones. Its intersection with Austell Road provides access to the southwest portion of these management zones. Georgia Highway 280, South Cobb Drive, intersects with Austell Road and runs in a north-south direction providing access to the western portions of each management zone. Various other roads, such as Clay Drive SE, Darnell Road SE, Joyner Avenue SE, Allgood Drive, and Eastside Drive SE, provide further access to the interior of each management zone at the west end of the runway.

To the east of the runway, U.S. 41, South Cobb Parkway, parallels a portion of the Dobbins ARB boundary and provides access to the Approach and Transitional Zones located off-installation. U.S. 41 runs in a northwest to southeast direction before exiting the southernmost Transitional Zone near its intersection with Windy Hill Road SE. Within the Approach Zone, Airport Industrial Drive SE runs in a southwest direction from its intersection with U.S. 41 through the southernmost Transitional Zone. Likewise, Terrell Mill Road SE runs in a northeast direction from U.S. 41 before exiting the easternmost part of the Approach Zone near I-75. Other roads that provide access to the management zones to the east of the runway include Davis Lane, Cumberland Point Drive SE, The Exchange SE, Enterprise Way SE, and Amsterdam Circle SE (see **Figure 3-6**).

**Electrical System.** The Georgia Power Company provides electrical power to Dobbins ARB. The power is supplied through the Lockheed Martin substation on the north side of AFP-6. Lockheed Martin acts as

the purveyor of electricity to the Air Force Reserve and the Georgia Guard Bureau, respectively. Two primary electrical feeders form the central components of the Dobbins ARB electrical system, which enter the installation along its northwest boundary. A network of underground and overhead electrical distribution lines traverse various parts of the installation (Dobbins ARB 2010a).

The electrical system was privatized with the Georgia Power Company in April 2004. The entire overhead system was upgraded under the privatization. According to the Georgia Power Company, peak electrical demand occurs in the summer months when total daily demand surpasses 37 megawatt-hours. Based on the current capacity of the substation, 38 percent of the substation's capacity is in surplus during the peak periods (Dobbins ARB 2010a).

There are four electric service providers for Cobb County at-large. In addition to the Georgia Power Company, Cobb EMC, Marietta Power, and Acworth Power manage and maintain electrical systems that serve customers throughout the county (Cobb County 2013b).

***Natural Gas and Liquid Fuels.*** Natural gas is supplied to Dobbins ARB by Atlanta Gas Light Company. The natural gas distribution system consists of a network of underground gas mains ranging from 3 to 8 inches in diameter. Peak demand for natural gas occurs during periods of cold weather and, in some cases, curtails the supply of gas for industrial purposes.

Liquid fuels in use at Dobbins ARB include jet propulsion number 8 (JP-8) aviation fuel, unleaded gasoline, and diesel fuel. The fuels are stored in aboveground storage tanks (ASTs) and underground storage tanks (USTs), and in tank trucks and bowsters that provide for the temporary storage and transportation of such fuels as necessary. Accidental releases of liquid fuels on the installation are managed in accordance with the Dobbins ARB Spill Prevention, Control, and Countermeasure (SPCC) Plan, which also contains mitigation measures to prevent spill occurrences (Dobbins ARB 2012d).

Liquid fuels used for military vehicles and as a backup fuel source for emergency generators is stored in ASTs dispersed throughout the installation that range in size from 300 to 10,000 gallons (Dobbins ARB 2010a). Two aboveground, vertical, fixed-roof tanks located proximate to the airfield store nearly 300,000 gallons of JP-8. There are no USTs on-installation used to store JP-8, however, the installation maintains fuel trucks to transport JP-8 from the storage tanks to the flightline to refuel aircraft (Dobbins ARB 2010a).

Dobbins ARB has more than 40 fixed ASTs used for a variety of purposes ranging from a maximum of 210,000 gallons down to the 55-gallon regulatory threshold and below. The major ASTs are used to store jet and diesel fuel. The total capacity for the major ASTs is approximately 315,000 gallons representing 94 percent of the POL volume stored on-installation (Dobbins ARB 2008).

***Water Supply System.*** The Cobb County-Marietta Water Authority (CCMWA) provides potable drinking water to the Dobbins ARB through a contract agreement with Lockheed Martin. The CCMWA has two surface water treatment facilities: the Quarles Treatment plant located on Lower Roswell Road at the Chattahoochee River, and the Wyckoff Treatment Plant located on Mars Hill Road in the northwest corner of Cobb County. The Quarles plant draws its water from the Chattahoochee, while the Wyckoff plant draws from Lake Allatoona. Collectively, these two plants can provide a maximum of 158 gallons per day of water to residential, commercial, and industrial customers in Cobb County. CCMWA also has nine water storage tanks dispersed throughout the county with a total capacity of 37 million gallons (Dobbins ARB 2012d, CCMWA 2013).

Potable drinking water is supplied to Dobbins ARB through a 20-inch steel water main near the main entrance and distributed via a looped supply system. Upgrades to the water distribution system, originally



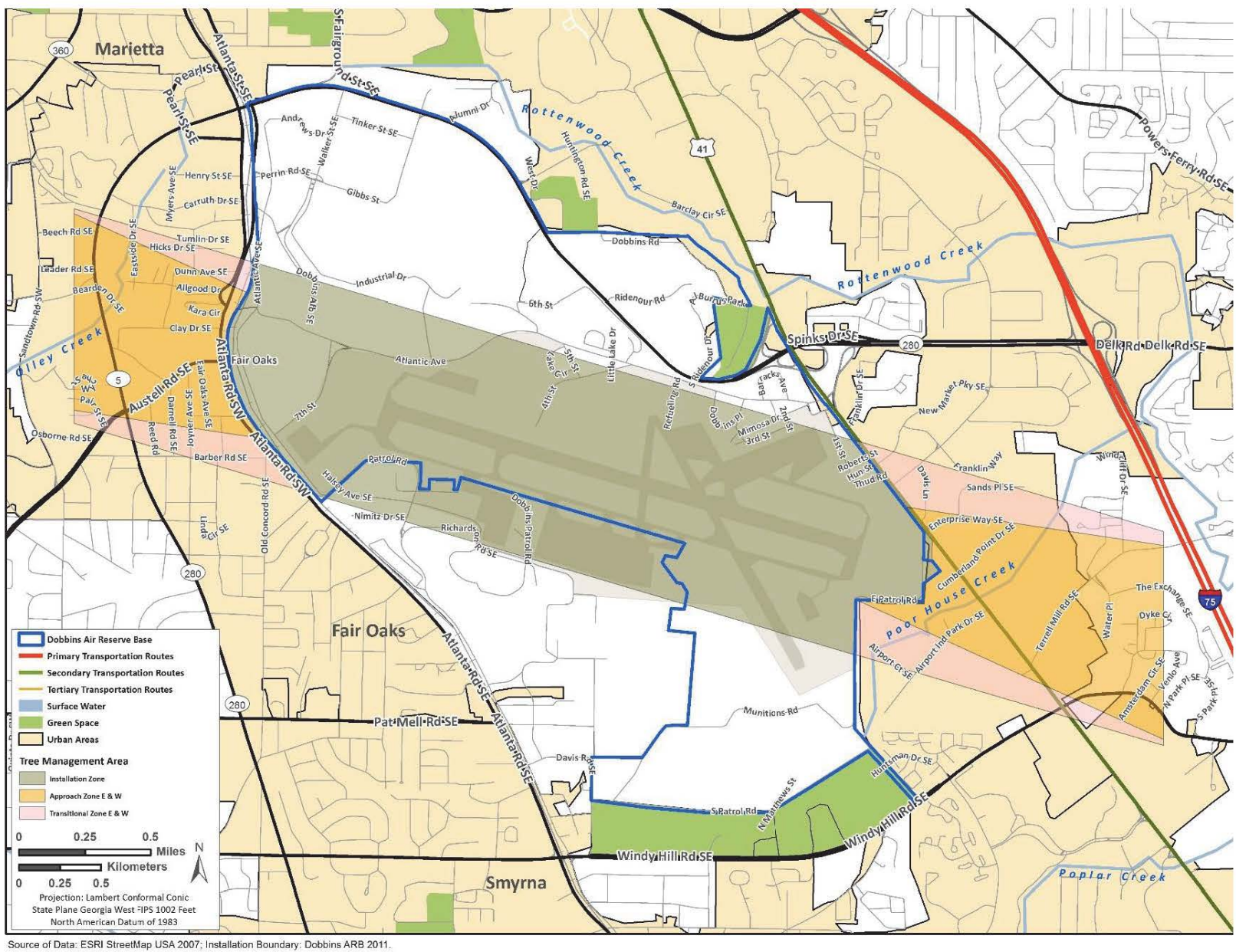


Figure 3-6. Transportation Map



constructed between 1954 and 1956, continue to be implemented to replace the older cast-iron pipes with high-density polyethylene pipes. Potable water is provided to the installation at an average of 110 to 120 pounds per square inch (Dobbins ARB 2010a). The CCMWA also provides water to industrial, commercial, and residential customers located in the areas surrounding the installation (Cobb County 2013b).

***Sanitary Sewer/Wastewater.*** Wastewater generated at Dobbins ARB is treated at the tertiary sewage treatment plant located on the southwest side of the installation and to the west of the Georgia Guard Bureau. The wastewater treatment plant is operated by AFP-6, has a maximum treatment capacity of 7 million gallons per day (MGD) of wastewater, and a historic average daily flow of 1.1 MGD. Sewage is transported to the treatment plant via a network of six lift stations aligned along the collection system adjacent to the north side of the runway. The treated wastewater is discharged to Nickajack Creek, a tributary to the Chattahoochee River, approximately 8 miles southwest of the installation. Wastewater from U.S. Army Reserve facilities discharges directly into a collector line of the Cobb County sanitary sewer system that passes through the eastern edge of the installation.

Industrial wastewater is pre-treated at a wastewater treatment plant (WWTP) operated by Lockheed Martin and is located at AFP-6. The Lockheed Martin industrial WWTP services only the Georgia Army National Guard hangar and the former remediation system at the bulk fuels storage facility. These lines discharge to Lockheed Martin Industrial Treatment Plant, which, in turn, discharges to the Tertiary Treatment Plant. All other waste lines on Dobbins ARB discharge directly to the tertiary treatment plant through the sanitary sewer system. AFP-6 operates the wastewater treatment plant under Georgia National Pollutant Discharge Elimination System (NPDES) Permit No. 0001198 (Dobbins ARB 2012d).

The Cobb County Water System (CCWS) operates and maintains approximately 2,500 miles of sanitary sewer and 38 wastewater lift stations. The CCWS maintains NPDES permits for its R.L. Sutton, South Cobb, Northwest, and Noonday wastewater treatment facilities (Cobb County 2013b).

***Stormwater Sewer System.*** The watersheds associated with the Dobbins ARB surface drainage system include the Rottenwood Creek watershed to the north and the Poorhouse Creek watershed to the south. The installation's storm water drainage system consists of culverts, man-made ditches, and natural drainageways, which transport the collected water to one of nine designated outfalls. Eight of the nine outfalls (001–008) discharge to a separate municipal storm sewer system or a natural drainageway. Outfalls 001, 003, 004, and 005 are located on the north side of the installation and eventually discharge into Rottenwood Creek. Outfall 002 is located on the east side of the installation and discharges into the municipal storm sewer before entering Poorhouse Creek. Outfall 009 discharges directly into Poorhouse Creek itself.

Industrial storm water discharges are authorized and managed by the installation's NPDES Permit effective June 2012 through May 2017. As part of the NPDES permit conditions, Dobbins ARB maintains a storm water pollution prevention plan (SWPPP) to assess the potential for contaminants to enter the drainage system and implement mitigation measures to prevent such occurrences (Dobbins ARB 2012d).

Cobb County maintains a permit to discharge storm water into the municipal storm water management system. In addition, there are three regional facilities within the county that serve to collect and detain storm water: the Echo Mill Regional Detention Facility in West Cobb, the Chestnut Hill Regional Detention Facility in North Cobb, and a third detention facility for the area surrounding County Services Parkway (Cobb County 2013b).

***Solid Waste.*** There are no active landfills on Dobbins ARB. Municipal solid waste generated at the installation is discarded into waste receptacles and dumpsters located throughout installation. Solid waste

is collected and transported to state-permitted municipal landfills by a private hauler. Additionally, the Dobbins ARB recycling program collects items such as paper, aluminum, cardboard, wood, fiberboard, scrap metal, and tires. Construction and demolition wastes are also separated from the solid waste stream and recycled at the installation (Dobbins ARB 2010a).

Solid waste facilities in Cobb County include a solid waste transfer station operated by Advanced Disposal Services which processes more than 90,000 tons of solid waste annually. Other such facilities include a recycling center and a vegetative waste recovery center (Cobb County 2013b).

**Communications.** Communications infrastructure at Dobbins ARB primarily consists of the Command, Control, Communications, Computer, and Information system infrastructure, a series of interconnecting copper and fiber-optic cable networks. All buildings on the installation are connected through fiber optic cables. Aircraft navigational aids in operation at the installation include radars and instrument landing systems (Dobbins ARB 2012d). Various private sector communications companies operate and maintain infrastructure off-installation to provide services such as telephone, cable, and Internet to customers located within Cobb County (Cobb County 2013b).

### **3.9. Hazardous Materials and Wastes**

#### **3.9.1. Definition of the Resource**

Hazardous materials are those substances that, prior to and during their use, pose a risk to human health and the environment. Such materials become hazardous waste after their use. Both the physical and chemical properties of a substance (i.e., ignitability, corrosivity, and reactivity) and its level of toxicity help to determine whether or not it receives “hazardous” classification. These materials and waste are regulated by numerous statutes, including: the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. §6921); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §9601[14]); and the Toxic Substances Control Act or (TSCA) (15 U.S.C. §2601). RCRA regulates the management and movement of solid and hazardous waste from “cradle-to-grave.” CERCLA pertains to spills and abandoned waste sites, and the TSCA regulates the use, storage, and disposal of hazardous chemicals such as asbestos and lead-based paint. Examples of hazardous materials and waste include polychlorinated biphenyls, solvents, asbestos, lead, radon, expended munitions constituents, and various types of fuels. Pesticide applications at Dobbins ARB are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136) and are also subject to regulation as a hazardous material.

#### **3.9.2. Affected Environment**

Dobbins ARB operates as a large-quantity generator (more than 1,000 kilograms of hazardous waste per month or more than 1 kilograms of acutely hazardous waste per month) of hazardous waste under RCRA. The operation of aircraft, vehicles, and equipment at Dobbins ARB requires the use of a variety of hazardous materials such as fuels, solvents, and lubricants. Other hazardous materials present on the installation include asbestos, lead-based paint, and radon (Dobbins ARB 2012d). Additionally, personnel at Dobbins ARB use herbicides, rodenticides, and insecticides to control populations of plant, insect, and animal pest species. As these chemicals are inherently toxic, their application in the environment is also a regulated activity. The AFRC administers several environmental programs that address hazardous materials and waste management at Dobbins ARB and maintains plans for dealing with various regulated substances (Dobbins ARB 2010a).

The *Waste Management Plan* outlines procedures for the proper accumulation, collection, transportation, and disposal of hazardous wastes. At Dobbins ARB, hazardous wastes are stored at satellite

accumulation points throughout the installation prior to being transferred to the 90-day hazardous waste accumulation point, Building No. 748. A hazardous waste contractor then transports the hazardous waste off site for disposal (Dobbins ARB 2007). Pesticides are managed through the installation's *Integrated Pest Management Plan*. Dobbins ARB also maintains and implements an *Asbestos Operations and Management Plan* and a *Lead Based Paint Management Plan*.

The Dobbins ARB Installation Restoration Program (IRP) was established in 1982 in response to the CERCLA to identify, characterize, and remediate contaminated sites on the installation. The program oversees the evaluation of past disposal sites, the management and disposal of contaminants from such sites, and site restoration activities to mitigate potential adverse effects on human health and the environment. Ten IRP sites are managed under the Dobbins ARB IRP, all of which entail land use controls, as appropriate. Six of the ten sites have been classified as requiring "no further action," four of which received a "no further response action planned" designation and are either under review or investigation. Two of the remaining sites lack state concurrence and two sites are in the early stages of the investigation process. Monitoring wells are located throughout the installation in areas where there has been soil and groundwater contamination and all IRP activities are guided by a Management Action Plan.

Within the Installation Zone, there are a total of seven IRP sites, the majority of which are adjacent to the airfield in the western part of the installation (ST-08, DP-06, OT-04, and FT-03) (Dobbins ARB 2012g, Dobbins 2010a).

### 3.10. Safety

#### 3.10.1. Definition of the Resource

Human health and safety concerns are a potential by-product of the various activities that compose the Proposed Action and include issues such as workers' health and safety (e.g., during tree management activities), public (e.g., during aircraft departures and arrivals) and pilot/passenger (e.g., bird-aircraft safety hazard concerns) safety, and health risks to more vulnerable populations such as children (Dobbins ARB 2012d).

#### 3.10.2. Affected Environment

**Contractor Safety.** Worker and public safety is a key issue at any construction site and military installation. All contractors performing tree management activities for Dobbins ARB are responsible for following ground safety regulations and worker compensation programs and are required to conduct maintenance activities in a manner that does not pose any risk to its workers, installation personnel, and the general public. An industrial hygiene program addresses exposure to hazardous materials, use of personal protective equipment, and availability of Material Safety Data Sheets. Industrial hygiene is the responsibility of contractors. Contractor responsibilities are to review potentially hazardous workplace operations; to monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous material), physical (e.g., noise propagation), and biological (e.g., infectious waste) agents; to recommend and evaluate controls (e.g., ventilation, respirators) to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures (Dobbins ARB 1999).

**Accident Potential Zones.** APZs are areas around an airfield that, based on statistical analyses of past DOD aircraft accidents, have potential for aircraft accidents to occur. There are three types of APZs on Dobbins ARB: the clear zone, APZ I, and APZ II. These areas are used for land use planning and management purposes to reduce risks to public safety in the unlikely event of such an incident.

At Dobbins ARB, the western clear zone is largely contained within the installation boundary, while the majority of the eastern clear zone encompasses land within the City of Marietta. Privately owned land at the western end of the runway is mainly residential property accessible from Atlanta Street. This area also supports an active railway line. Privately owned land at the eastern end of the runway contains high occupancy commercial and retail establishments, and a high volume thoroughfare – U.S. 41 or South Cobb Parkway. In total, there are approximately 413 acres of land within the airfield Clear Zones, 254 of which are either owned by the USAF or remain under easement. Approximately 160 acres of property in the Clear Zone are not currently owned by the USAF.

The vast majority of lands encompassed by the western portion of APZ I are within Cobb County, while the western portion of APZ II is within the City of Marietta. To the east, the land under APZ I is roughly split between the City of Marietta and Cobb County. The eastern part of APZ II, however, is located entirely within Cobb County. See **Section 3.1** for additional information regarding development to the west and east of the airfield (Dobbins ARB 2011b).

**Fire Hazards and Public Safety.** The Dobbins Fire and Emergency Services provide fire, rescue, hazardous material, and medical services at the installation in compliance with AFI 32-2001. In addition to Dobbins ARB Fire and Emergency Services, private outside contractors could be called in to provide emergency services for hazardous material spill-related incidents but only after the initial Dobbins ARB services' response. The 94th Security Forces Squadron handles security and police duties at the installation in accordance with AFI 31-201 and AFI 31-101. Other Federal agencies and local municipalities may assist the 94th Security Forces Squadron but only if needed. Individuals, supervisors, managers, and commanders are expected to give full support to safety efforts. Safety awareness and strict compliance with established safety standards are expected. In the event of a mishap, the installation will investigate the incident, document lessons learned, and take corrective action. The installation enforces strict security policies and enforcement procedures and is fully enclosed by a chain-link fence (Dobbins ARB 1999).

**Protection of Children.** EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, 21 April 1997 directs Federal agencies to identify and assess environmental health and safety risks that could disproportionately affect children, and to ensure that their policies, programs, standards, and activities address such concerns. Military family housing is not present on Dobbins ARB; therefore, no children are permanent residents on the installation. Children could be on the installation as visitors and a small playground is located at the Big Lake Recreation Area (Dobbins ARB 2012d).

### **3.11. Socioeconomics and Environmental Justice**

#### **3.11.1. Definition of the Resource**

**Socioeconomic Resources.** Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity. Regional birth and death rates and immigration and emigration affect population levels. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these fundamental socioeconomic indicators typically result in changes to additional socioeconomic indicators, such as housing availability and the provision of public services. Socioeconomic data at local, county, state, and national levels permit characterization of baseline conditions in the context of regional, state, and national trends. In appropriate cases, data on an installation's expenditures in the regional economy help to identify the relative importance of an installation in terms of its purchasing power and influence in the job market.

Demographics, employment characteristics, and housing occupancy status data provide key insights into socioeconomic conditions that might be affected by a proposed action. Demographics identify the population levels and the changes in population levels of a region over time. Demographics data might also be obtained to identify a region's characteristics in terms of race, ethnicity, poverty status, educational attainment level, and other broad indicators. Data on employment characteristics identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on personal income in a region can be used to compare the "before" and "after" effects of any jobs created or lost as a result of a proposed action. Housing statistics provide baseline information about the local housing stock, the percentage of houses that are occupied, and the ratio of renters to homeowners. Housing statistics allow for baseline information to evaluate the impacts a proposed action might have upon housing in the region.

**Environmental Justice.** EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that Federal agencies' actions substantially affecting human health or the environment do not exclude persons, deny persons benefits, or subject persons to discrimination because of their race, color, or national origin. The EO was created to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, tribal, and local programs and policies.

Consideration of environmental justice concerns includes race, ethnicity, and the poverty status of populations in the vicinity of a proposed action. Such information aids in evaluating whether a proposed action would render vulnerable any of the groups targeted for protection in the EO.

### 3.11.2. Affected Environment

For the purposes of this socioeconomic analysis, five different spatial levels are used: (1) Region of Influence (ROI), defined as the census tracts surrounding Dobbins ARB and the imaginary surfaces, which include census tracts 303.44, 303.45, 311.14, 311.13, 310.01, 310.02, 309.04, 309.02, and 304.14; (2) the City of Marietta; (3) Cobb County, the county within which Dobbins ARB is located; (4) the State of Georgia; and (5) the United States. **Figure 3-7** illustrates the area of the ROI.

The ROI best illustrates the socioeconomic characteristics for the areas adjacent to the imaginary surfaces and the geographic areas where most impacts from the Proposed Action would occur. The City of Marietta and Cobb County represent the areas that would be indirectly affected by the Proposed Action; therefore, they are included in the analysis. Data for the State of Georgia provide baseline comparisons for the spatial levels. Data for the United States are included to provide an additional baseline level for comparison.

**Demographics.** 2000 and 2010 population data for the five spatial levels are presented in **Table 3-8**. All of the spatial levels have population increase rates considerably higher than the United States baseline, with the exception of the City of Marietta, which had a slight population decrease. Cobb County's population growth can be attributed to a tremendous increase in residential and commercial activity, direct access to four interstates (I-75, I-20, I-285, and I-575), and investments in educational facilities (Dobbins ARB 2010a).

**Employment Characteristics.** As of 2010, the percentage of persons employed in the armed forces was 0.4 percent in the ROI, 0.3 percent in the City of Marietta, 0.2 percent in Cobb County, 0.7 percent in



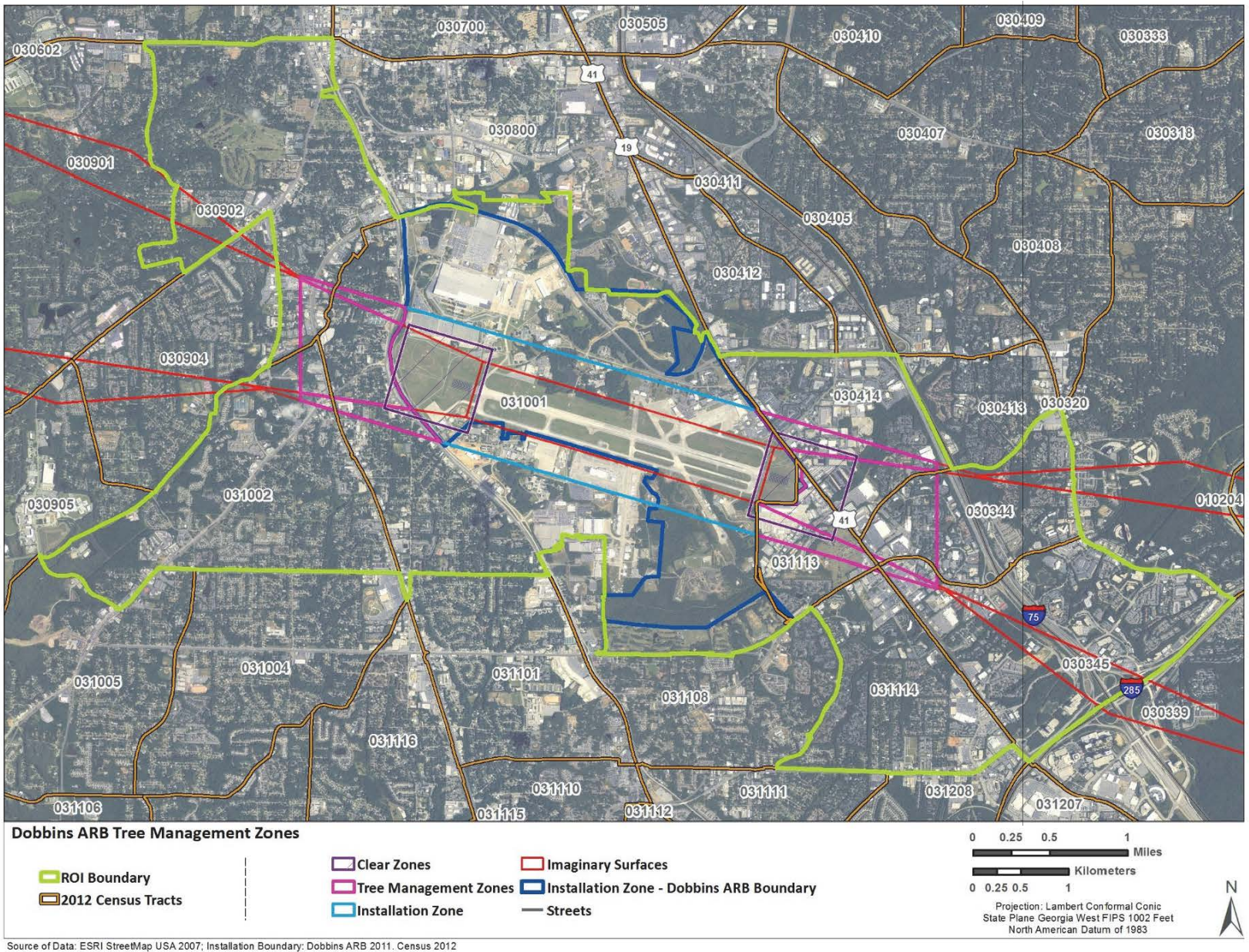


Figure 3-7. Socioeconomic and Environmental Justice Region of Influence for the Proposed Action

**Table 3-8. Population Data for 2000 and 2010**

	<b>2000</b>	<b>2010</b>	<b>Percent Change</b>
ROI	N/A	44,452	N/A
The City of Marietta	58,748	56,579	-3.7%
Cobb County	607,751	688,078	13.2%
Georgia	8,186,453	9,687,653	18.3%
United States	281,421,906	308,745,538	9.7%

Source: U.S. Census Bureau 2011.

Note: 2000 census data were not available for all census tracts due to realignment under the 2010 census. 2010 data were used for consistent reference.

Georgia, and 0.5 percent in the United States. The percentage of persons employed by the armed forces is one of the smallest industry categories in Cobb County despite the presence of Dobbins ARB. The professional, scientific, management, administrative, and waste management services categories are the most prevalent occupations identified in the ROI. For the City of Marietta, Cobb County, and Georgia, the most common occupations are in educational services, health care, and social assistance (U.S. Census Bureau 2011). **Table 3-9** contains 2010 information regarding employment by industry.

Dobbins ARB has an estimated annual economic impact of \$318,048,809 in the Atlanta Metropolitan Area. It has an average annual payroll of \$74,053,754 and an annual military construction budget of \$49,711,079. The installation is responsible for 2,378 direct employees in the region (Dobbins ARB 2012a). Additionally, Dobbins ARB makes a considerable contribution to the local economy through direct employment and purchases from local businesses. In 2005, 88 percent of the total payroll was spent within a 50-mile radius of the installation (Dobbins ARB 2010a).

The areas in the tree management zones outside Dobbins ARB are socioeconomically diverse. The Approach Zone on the West End and the Transitional Zone on the West Approach consist primarily of private residences, with commercial property along Atlanta Road. The Approach Zone on the East End primarily consists of commercial land uses, with some residential developments along Terrell Mill Road, while the Transitional Zone on the East Approach is primarily commercial.

As of 2011, the average unemployment rate for the ROI was 20.3 percent (U.S. Census Bureau 2011). The City of Marietta has had higher than baseline (i.e., Georgia) unemployment rates from 2001 to 2004. From 2004 to 2007, the city had unemployment rates on par with the baseline, and from 2007 to 2011 their unemployment rates have been slightly lower. The city surpassed the 10 percent unemployment mark in February, September, and October 2010. Cobb County has generally maintained unemployment rates slightly lower than the baseline for the past decade. The monthly unemployment rates for Georgia have been intermittently higher than 10 percent since June 2009. However, the national seasonally adjusted unemployment rate has only risen above 10 percent one time in the past 10 years; in October 2009 it was 10.1 percent (Bureau of Labor Statistics 2011).

**Housing Characteristics.** **Table 3-10** depicts the housing characteristics of the socioeconomics spatial analysis levels. The housing occupancy rate in the ROI is relatively high and the owner occupancy rate is considerably low. Similarly, the City of Marietta also has a relatively low owner occupancy percentage and the second lowest occupancy percentage among the spatial levels. The other spatial levels have occupancy percentages similar to the national average (U.S. Census Bureau 2011). The Approach and Transitional Zones on the West End are primarily residential, while the Approach Zone on the East End is



**Table 3-9. Overview of Employment by Industry, 2011**

Employment Types	ROI	City of Marietta	Cobb County	Georgia	United States
Percent of population 16 years old and over in the labor force	79.7%	75.6%	72.9%	65.0%	64.8%
Percent of population 16 years old and over in labor force employed within the armed forces	0.4%	0.3%	0.2%	0.7%	0.5%
Agriculture, forestry, fishing and hunting and mining	0.4%	0.3%	0.2%	1.2%	1.9%
Construction	14.6%	11.6%	7.2%	7.4%	6.8%
Manufacturing	7.7%	8.7%	8.2%	10.9%	10.8%
Wholesale trade	2.4%	2.1%	3.9%	3.3%	2.9%
Retail trade	12.4%	12.0%	11.5%	11.8%	11.5%
Transportation and warehousing, and utilities	4.2%	5.5%	5.3%	6.0%	5.1%
Information	3.6%	3.6%	3.9%	2.6%	2.3%
Finance and insurance, and real estate and rental and leasing	5.5%	5.6%	8.3%	6.4%	6.9%
Professional, scientific, and management, and administrative and waste management services	18.7%	15.8%	16.0%	11.0%	10.5%
Educational services, and health care and social assistance	12.1%	17.2%	18.3%	20.4%	22.5%
Arts, entertainment, and recreation, and accommodation and food services	10.3%	10.1%	8.7%	8.6%	9.0%
Other services, except public administration	5.0%	4.4%	4.9%	5.0%	4.9%
Public administration	3.1%	3.1%	3.6%	5.3%	4.9%

Source: U.S. Census Bureau 2011

primarily commercial, but has some residential development. No residential development is found in the Transitional Zone on the East Approach.

**Environmental Justice.** Minority population levels within the ROI are higher than minority levels in all other spatial levels. The ROI's population reporting to be a race other than white was 60 percent, which is greater than the City of Marietta (47 percent), Cobb County (38 percent), Georgia (40 percent), and the United States (28 percent). The Hispanic or Latino population in the ROI was also considerably higher than all other spatial levels. Minority populations in all spatial levels at the state level and below are higher than for the United States (U.S. Census Bureau 2011). The poverty status for individuals in the ROI is higher than the other spatial levels. Likewise, the per capita income and median household income for the ROI is lower than in the other spatial levels. **Table 3-11** shows the 2010 demographic data for the spatial levels.



**Table 3-10. Housing Characteristics by Spatial Levels**

	<b>ROI</b>	<b>City of Marietta</b>	<b>Cobb County</b>	<b>Georgia</b>	<b>United States</b>
Total Housing Units	21,689	26,918	286,490	4,088,801	131,704,703
Occupancy Percentage	85.4%	85.7%	90.9%	87.7%	88.6%
Owner Occupancy Percentage	25.3%	42.3%	66.9%	65.7%	65.1%

Source: U.S. Census Bureau 2010

**Table 3-11. Minority, Low-Income, and Poverty Status, 2010**

<b>Demographic</b>	<b>ROI</b>	<b>City of Marietta</b>	<b>Cobb County</b>	<b>Georgia</b>	<b>United States</b>
Total Population	39,237	56,579	688,078	9,687,653	308,745,538
Percent Male	50.7%	48.9%	48.6%	48.8%	49.2%
Percent Female	49.3%	51.1%	51.4%	51.2%	50.8%
Percent Over 65 Years Old	5.4%	10.1%	8.7%	10.7%	13.0%
Percent White	40.4%	52.7%	62.2%	59.7%	72.4%
Percent Black or African American	35.2%	31.5%	25.0%	30.5%	12.6%
Percent American Indian, Alaska Native	0.7%	0.5%	0.3%	0.3%	0.9%
Percent Asian	4.8%	3.0%	4.5%	3.2%	4.8%
Percent Native Hawaiian and Other Pacific Islander	0.1%	0.1%	0.1%	0.1%	0.2%
Percent Some Other Race	15.0%	9.1%	5.3%	4.0%	6.2%
Percent Reporting 2 or more races	3.7%	3.3%	2.7%	2.1%	2.9%
Percent Hispanic or Latino	33.3%	20.6%	12.3%	8.8%	16.3%
Percent of Individuals Below Poverty	21.0%	18.5%	10.6%	15.7%	13.8%
Per Capita Income	\$21,425.44	\$26,710	\$33,110	\$25,134	\$27,334
Median Household Income	\$39,518.67	\$45,233	\$65,522	\$49,347	\$51,914

Source: U.S. Census Bureau 2010

## 4. ENVIRONMENTAL CONSEQUENCES

This section addresses the potential environmental consequences associated with the Proposed Action and No Action Alternative. The following parameters are used to evaluate the duration and extent of potential environmental and socioeconomic impacts associated with the Proposed Action.

**Short-term or long-term.** These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term effects are those that would occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term effects are those that are more likely to be persistent and chronic.

**Direct or indirect.** A direct effect is caused by and occurs contemporaneously at or near the location of the action. An indirect effect is caused by a proposed action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action. For example, a direct effect of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.

**Negligible, minor, moderate, or major.** These relative terms are used to characterize the magnitude or intensity of an impact. Negligible effects are generally those that might be perceptible but are at the lower level of detection. A minor effect is slight, but detectable. A moderate effect is readily apparent. A major effect is one that is severely adverse or exceptionally beneficial.

**Adverse or beneficial.** An adverse effect is one having adverse, unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial effect is one having positive outcomes on the man-made or natural environment. A single act might result in adverse effects on one environmental resource and beneficial effects on another resource or could result in both adverse and beneficial impacts to a single resource.

**Significance.** Significant effects are those that, in their context and due to their intensity (severity), meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27).

**Context.** The context of an effect can be localized or more widespread (e.g., regional).

**Intensity.** The intensity of an effect is determined through consideration of several factors, including whether an alternative might have an adverse impact on the unique characteristics of an area (e.g., historical resources, ecologically critical areas), public health or safety, or endangered or threatened species or designated critical habitat. Effects are also considered in terms of their potential for violation of Federal, state, or local environmental law; their controversial nature; the degree of uncertainty or unknown effects, or unique or unknown risks; if there are precedent-setting effects; and their cumulative effects (see **Section 5**).

### 4.1. Air Quality

#### 4.1.1. Evaluation Criteria

The significance criteria are dependent on whether the Proposed Action is located in an attainment, nonattainment, or maintenance area for criteria pollutants. Other significance criteria include whether New Source Review (NSR) air quality construction permitting is triggered or Title V operating permitting is triggered. Major NSR air quality construction permitting is divided into Nonattainment Major NSR

(NANSR) for nonattainment pollutants and PSD permitting for attainment pollutants. All of these significance criteria are discussed in the following paragraphs.

**Attainment Area Pollutants.** The attainment area pollutants for the location of this Proposed Action are CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, and PM<sub>10</sub>. The impact in NAAQS “attainment” areas would be considered significant if the net increases in these pollutant emissions from the Federal action would result in any one of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Exceed any Evaluation Criteria established by a SIP or permit limitations/requirements.

Impacts on ambient air quality were generally assessed by comparing the increase in emissions under the Proposed Action to the county or AQCR emissions inventory.

**Nonattainment or Maintenance Area Pollutants.** The nonattainment area pollutants for the location of this Proposed Action are PM<sub>2.5</sub> and O<sub>3</sub> (measured as NO<sub>x</sub> and VOCs). Effects on air quality in NAAQS “nonattainment” areas are considered significant if the net changes in these project-related pollutant emissions result in any of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Increase the frequency or severity of a violation of any ambient air quality standard
- Delay the attainment of any standard or other milestone contained in the SIP.

With respect to the General Conformity Rule, effects on air quality would be considered significant if the proposed Federal action emissions exceed *de minimis* threshold levels established in 40 CFR 93.153(b) for individual nonattainment pollutants or for pollutants for which the area has been redesignated as a maintenance area. In addition, if a facility has a specific general conformity budget listed in the SIP, a proposed action that results in an exceedance of that budget would be considered a significant effect on air quality. Dobbins ARB is not specifically listed in the Georgia SIP as having a specific General Conformity budget.

**Table 4-1** presents the General Conformity *de minimis* thresholds, by regulated pollutant. As shown in this table, *de minimis* thresholds vary depending on the severity of the nonattainment area classification. Note that emissions sources subject to NANSR, PSD, or even Minor NSR air permitting are not required to be counted towards the General Conformity *de minimis* thresholds. The reasoning for this is they would already be required to go through an approval process with the appropriate Federal, state, or local air quality regulatory authority.

**Nonattainment Major NSR Permits.** The following factors were considered in determining the significance of air quality impacts with respect to NANSR permitting requirements:

- If the net increase in stationary source emissions qualify as a NANSR major source. This major source threshold varies from 10 tons per year (tpy) to 100 tpy for nonattainment pollutants depending on the severity of the nonattainment classification and the pollutant (40 CFR 51.165).

**Table 4-1. General Conformity *de minimis* Emissions Thresholds**

<b>Pollutant</b>	<b>Status</b>	<b>Classification</b>	<b><i>de minimis</i> Limit (tpy)</b>
Ozone (measured as NO <sub>x</sub> or VOCs)	Nonattainment	Extreme Severe Serious Moderate/marginal (inside ozone transport region) All others	10 25 50 50 (VOCs)/100 (NO <sub>x</sub> ) 100
	Maintenance	Inside ozone transport region Outside ozone transport region	50 (VOCs)/100 (NO <sub>x</sub> ) 100
Carbon Monoxide	Nonattainment/ maintenance	All	100
PM <sub>10</sub>	Nonattainment	Serious Moderate No Special Classification	70 100 100
	Maintenance	All	100
PM <sub>2.5</sub> (measured directly, or as SO <sub>2</sub> , or NO <sub>x</sub> , or VOC as significant precursors)	Nonattainment/ maintenance	All	100
SO <sub>2</sub>	Nonattainment/ maintenance	All	100
NO <sub>x</sub>	Nonattainment/ maintenance	All	100
VOC	Nonattainment/ maintenance	All	100
Lead	Nonattainment/ maintenance	All	25

Source: 40 CFR 93.153, as of January 9, 2012

**PSD and Title V Permits.** The following factors were considered in determining the significance of air quality impacts with respect to PSD permitting requirements prior to construction:

- If the net increase in stationary source emissions qualify as a PSD major source. This includes 250 tpy emissions per attainment pollutant (40 CFR 52.21(b)(1) and 40 CFR 52.21(a)(2), or 75,000 tpy emissions of GHGs.
- If the Proposed Action occurs within 10 kilometers of a Class I area and if it would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I area of 1 µg/m<sup>3</sup> or more (40 CFR 52.21[b][23][iii] and 40 CFR 52.21[a][2]).

The following factor was considered in determining the significance of air quality impacts with respect to Title V operating permit requirements (40 CFR 71.2 and 40 CFR 71.3):

- If the increase in stationary source emissions under the Proposed Action qualify as a Title V major source. This includes the potential to emit 100 tpy for criteria pollutants, or 10 tpy of any individual Hazardous Air Pollutant (HAP), or 25 tpy of all HAPs combined, or 100,000 tpy of greenhouse gases (GHGs).

Emissions calculated by the proposed tree management activities would not be subject to the above significance criteria for these permit programs as no permanent stationary sources would be installed.

#### 4.1.2. Proposed Action

The five tree management zones would have similar air quality impacts. Therefore, their air quality discussion is consolidated into one section for the Proposed Action.

Short-term, minor, adverse effects on air quality would be expected from the tree management activities in the tree management zones; however, the effects would not be significant. Activities associated with tree management would generate air pollutant emissions from the operation of heavy machinery accessing and selectively removing target trees in the tree management areas. Two methods of tree removal would be used at Dobbins AFB: tree felling or tree trimming. The felling of target trees would occur by hand with chain-saws (manual) or by single or dual function machines (such as a feller-buncher). Tree management activities would generate particulate emissions as fugitive dust from ground-disturbing activities, the combustion of fuels in heavy-duty equipment, and hauling of trees from the site. The quantity of uncontrolled fugitive dust emissions from the tree management zones is proportional to the area of land being worked and the level of activity. Tree management activities would incorporate best management practices (BMPs) (e.g., frequent use of water to suppress dust from dust-generating activities) to minimize fugitive particulate matter emissions. Additionally, the work vehicles are assumed to be well-maintained and could use diesel particle filters to reduce emissions. Construction workers commuting daily to and from the tree management zones in their personal vehicles would also result in criteria pollutant air emissions. Based on the size of the tree management zones and the duration of the tree management activities, it is not expected that emissions from the proposed activities would contribute to or affect local or regional attainment status with the NAAQS.

Emissions from the proposed tree management activities would be produced only for the duration of work activities, which, for the purposes of this air quality analysis, is assumed to be 120 workdays (i.e., 5 days per week, 4 weeks per month, and 6 calendar months). This would include all of the activities at all of the parcels; however, the work would not likely occur consecutively. While a timeline has not been proposed and the activities could take place over multiple years, emissions have been conservatively calculated for one calendar year. Air emissions from tree management activities are summarized in **Table 4-2** for the entire Proposed Action. **Appendix C** contains detailed calculations and the assumptions used to estimate the air emissions. Note that all tree management emissions are not stationary sources but are classified as mobile source emissions.

Based on the emissions calculations, emissions from tree management activities in the Proposed Action are not expected to (1) cause or contribute to a violation of any national or state ambient air quality standard, (2) increase the frequency or severity of a violation of any ambient air quality standard, (3) expose sensitive receptors to substantially increased pollutant concentrations, (4) exceed any evaluation criteria established by a SIP, or (5) delay the attainment of any standard or other milestone contained in the SIP.

**General Conformity.** The Proposed Action is located in a nonattainment area for PM<sub>2.5</sub> and O<sub>3</sub>. Therefore, General Conformity applicability was evaluated based on the increase in PM<sub>2.5</sub> emissions and the pollutants that generate O<sub>3</sub>, VOCs, and NO<sub>x</sub>. The thresholds are 100 tpy for each of these pollutants.

**Table 4-2. Estimated Air Emissions Resulting from Tree Management Activities**

Activity	NO <sub>x</sub> tpy	VOC tpy	CO tpy	SO <sub>2</sub> tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy	CO <sub>2</sub> tpy
Project Combustion	19.655	0.913	9.978	1.563	0.872	0.845	2,214.758
Project Fugitive Dust	-	-	-	-	82.196	8.220	-
Haul Truck On-Road	0.002	0.001	0.005	0.000	0.002	0.001	0.435
Project Commuter	0.025	0.025	0.223	0.000	0.002	0.001	29.583
<b>Total Emissions</b>	<b>19.682</b>	<b>0.939</b>	<b>10.206</b>	<b>1.563</b>	<b>83.072</b>	<b>9.067</b>	<b>2,244.777</b>
<b>Percent of Cobb County</b>	<b>0.0094%</b>	<b>0.0042%</b>	<b>0.0079%</b>	<b>0.0060%</b>	<b>0.47%</b>	<b>0.23%</b>	<b>See value and note below</b>
<b>Percent of Metropolitan Atlanta AQCR Inventory</b>	<b>0.012%</b>	<b>0.001%</b>	<b>0.001%</b>	<b>0.001%</b>	<b>0.050%</b>	<b>0.026%</b>	<b>0.0012%</b>
<b>General Conformity Applicability Thresholds</b>	100	100	NA	NA	NA	100	NA

Notes: \* Percent of Georgia's 2009 CO<sub>2</sub> emissions (DOE/EIA 2011). NA = Not Applicable

As shown above in **Table 4-2**, the General Conformity thresholds are not expected to be exceeded for this Proposed Action. Therefore, a General Conformity determination is not required.

**Greenhouse Gas Emissions.** The proposed tree management activities would contribute directly to emissions of GHGs from the combustion of fossil fuels. Because CO<sub>2</sub> emissions account for approximately 92 percent of all GHG emissions in the United States, they are used to simplify the analyses of GHG emissions in this assessment.

The U.S. Department of Energy, Energy Information Administration estimates that in 2009 gross CO<sub>2</sub> emissions in Georgia were 164.2 million metric tons and were 5,814.4 million metric tons in the entire United States (DOE/EIA 2011). The Proposed Action would emit an estimated maximum of 2,377.23 metric tons from tree management activities. GHG emissions would be temporary and occur for one year. The total maximum estimated annual CO<sub>2</sub> emissions from the Proposed Action would be 0.0012 percent of Georgia's 2009 CO<sub>2</sub> emissions and 0.000035 percent of the entire United States' 2009 CO<sub>2</sub> emissions. Therefore, the Proposed Action would represent a negligible contribution towards statewide and national GHG inventories.

#### 4.1.3. No Action Alternative

Under the No Action Alternative, Dobbins ARB would manage trees that are considered obstructions to air navigation within the primary surface, approach-departure surface, transitional surface, and the clear zone at the airfield but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Impacts on air quality would be similar to those described under the Proposed Action, but would occur over a smaller area. Therefore, short-term, minor, adverse effects on air quality would be expected from the tree management activities in the tree management zones.



## 4.2. Noise

### 4.2.1. Evaluation Criteria

Noise impact analyses typically evaluate potential changes to the existing noise environment that would result from implementation of a proposed action. Potential changes in the acoustical environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels or reduce the ambient sound level), negligible (i.e., if the total number of sensitive receptors to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased sound exposure to unacceptable noise levels or ultimately increase the ambient sound level). Projected noise effects were evaluated qualitatively for the alternatives considered.

### 4.2.2. Proposed Action

#### 4.2.2.1. Installation Zone

The proposed tree management activities would consist primarily of felling and trimming target trees. Noise from these tree management activities would vary depending on the type of equipment being used, the area that the action would occur in, and the distance from the noise source. Typical equipment used could include feller-bunchers, chainsaws, bulldozers, and loaders. The noise associated with this type of equipment would be similar to noise produced during construction activities. To predict how these activities would impact adjacent populations, noise from the probable equipment was estimated. For example, as shown in **Table 3-4**, construction usually involves several pieces of equipment (e.g., trucks and bulldozers) that can be used simultaneously. Under the Proposed Action, the cumulative noise from the proposed equipment, during the busiest day, was estimated to determine the total impact of noise from construction activities at a given distance. Examples of expected cumulative construction noise during daytime hours at specified distances are shown in **Table 4-3**.

**Table 4-3. Estimated Noise Levels from Tree Management Activities**

Distance from Noise Source (feet)	Estimated Noise Level
50	90 to 94 dBA
100	84 to 88 dBA
150	81 to 85 dBA
200	78 to 82 dBA
400	72 to 76 dBA
800	66 to 70 dBA
1,500	< 64 dBA

The noise from tree management equipment would be localized, short-term, and intermittent during machinery operations. Heavy equipment would be used routinely during tree management activities; therefore, noise levels from the equipment would fluctuate throughout the day.

The Installation Zone is entirely within the installation boundary; however, tree management activities would border off-installation land to the east and west. Off-installation noise-sensitive receptors

(including multiple residential areas) could be as close as 200 feet. Persons approximately 200 feet from tree management activities would likely experience intermittent noise levels of approximately 78 to 82 dBA.

Tree management activities in the Installation Zone would result in short-term, minor, adverse impacts on the noise environment in the vicinity of tree management activities. However, noise generation would last only for the duration of the proposed activities and would diminish as they moved farther away from the receptor. Noise generation could be minimized by restricting tree management activities to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.) and the use of measures such as equipment exhaust mufflers. It is not anticipated that the short-term increase in ambient noise levels from the Proposed Action in the Installation Zone would cause significant adverse effects on the surrounding populations.

The Installation Zone is entirely within the noise contours from aircraft operations at Dobbins ARB. Since multiple single-noise events create the cumulative DNL value, the actual sound levels that a person hears within the area of the DNL noise contours fluctuates throughout a 24-hour period. Consequently, noise receptors adjacent to the Installation Zone are accustomed to fluctuations of noise levels. In addition, noise generation would last only for the duration of tree management activities and would be isolated to normal working hours. Consequently, tree management activities within the Installation Zone would not result in significant impacts on the noise environment.

Short-term, negligible to minor, adverse impacts on the ambient environment would be expected as a result of the increase in tree management vehicular traffic under the Proposed Action. Tree management traffic would use existing roadways to access selected trees within the Installation Zone. The additional traffic resulting from these vehicles would likely cause minor increases in noise levels on noise-sensitive populations adjacent to these roadways.

#### 4.2.2.2. Off-Installation Tree Management Zones

Due to the similarity of noise receptors, tree management activities, proximity to Dobbins ARB of the off-installation tree management zones, it is anticipated that they would have similar noise impacts for the proposed tree management activities.

Noise from proposed tree management activities in the off-installation tree management zones would be expected to be similar to those described for the Installation Zone. The proposed tree management activities would be expected to result in noise levels comparable to those indicated in **Table 4-1**. The proposed tree management activities would be adjacent to multiple noise-sensitive receptors. These receptors could be as close as 100 feet and could experience intermittent noise levels of approximately 84 to 88 dBA.

The off-installation tree management zones and the adjacent noise receptors are within the noise contours from aircraft operations at Dobbins. Consequently, populations within and adjacent to these zones are accustomed to fluctuations of noise levels. In addition, noise generation would last only for the duration of tree management activities and would be isolated to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.). Consequently, tree management activities within the off-installation tree management zones would not result in significant impacts on the noise environment.

Vehicular noise from tree management vehicles would be expected to be similar to those for the Installation Zone. Traffic associated with tree management activities would use existing roadways to access selected trees within the off-installation tree management zones.

#### 4.2.3. No Action Alternative

Under the No Action Alternative, tree management would still occur in all tree management zones, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Impacts on noise would be similar to those described under the Proposed Action, but would occur over a smaller area. Therefore, short-term, negligible to minor, adverse impacts on the noise environment would be expected as a result of the tree management equipment use and vehicular traffic.

### 4.3. Land Use

#### 4.3.1. Evaluation Criteria

The significance of potential land use effects is based on the level of land use sensitivity in areas affected by a proposed action and the compatibility of a proposed action with existing conditions. A proposed action could have a significant effect with respect to land use if any of the following were to occur:

- Be inconsistent or in noncompliance with existing land use plans or policies
- Preclude the viability of existing land use
- Preclude continued use or occupation of an area
- Be incompatible with adjacent land use to the extent that public health or safety is threatened
- Conflict with planning criteria established to ensure the safety and protection of human life and property
- Creation of adverse visual intrusions or visual contrasts affecting the quality of a landscape.

#### 4.3.2. Proposed Action

Short-term, negligible to minor, adverse and long-term, minor to moderate, beneficial effects would be expected as a result of the Proposed Action; however, these effects would not be significant. The management of tree growth would not be expected to have a significant effect on land use or visual resources due to the fact that trees on Dobbins ARB are within or adjacent to the airfield and trees on off-installation are within fully developed areas of Cobb County and the City of Marietta, and are relatively sparse.

Short-term, adverse effects on the Installation Zone would result from noise disturbance and temporary halting of planned aircraft activities during tree maintenance activities. Tree management activities would be expected to raise noise levels above ambient conditions for a brief period of time, causing a temporary, but minor, potential nuisance to installation personnel and surrounding business and residents immediately adjacent to Dobbins ARB. Airfield use may be limited during tree maintenance activities to prevent unsafe conditions for aircraft and ground crew.

Long-term, beneficial effects on the Installation Zone would result from creating more compatible conditions for the Dobbins ARB airfield. The Proposed Action would remove tree obstructions on the installation, resulting in safer flight conditions. Furthermore, the Proposed Action would bring the installation in compliance with Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-01 which limits vertical obstructions in imaginary surfaces.

Short-term, adverse effects on off-installation tree management zones would result from noise disturbance and accessing private land during tree maintenance activities. Tree management activities would be expected to raise noise levels above ambient conditions for a brief period of time, causing a temporary, but minor, potential nuisance to surrounding business and residents. Land access agreements would be obtained prior to any tree management activities.

Long-term, beneficial effects on off-installation tree management zones would result from creating more compatible conditions for the Dobbins ARB airfield in these zones and would be consistent with planning criteria that have been established to protect human health and safety. The Proposed Action would comply with the Official Code of Cobb County, which calls for the management of natural growth within areas surrounding Dobbins ARB airfield (i.e., Military Airport Hazard District).

#### **4.3.3. No Action Alternative**

Under the No Action Alternative, Dobbins ARB would continue to manage trees that are considered obstructions to air navigation in the tree management zones, but tree management would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Impacts on land use would be similar to those described under the Proposed Action, but would occur over a smaller area. Short-term, negligible to minor, adverse and long-term, minor to moderate, beneficial effects would be expected from noise disturbance and temporary halting of planned aircraft activities during tree maintenance activities and from creating more compatible conditions for the Dobbins ARB airfield. Additionally, portions of the tree management zones would be consistent with planning criteria that have been established to protect human health and safety. However, long-term, minor to moderate, adverse effects would be expected where real estate agreements do not exist due to the continued potential flight hazard of tree growth into the imaginary surfaces. Continued tree growth would be incompatible with airfield operations at Dobbins ARB and would not comply with the Official Code of Cobb County.

### **4.4. Geological Resources**

#### **4.4.1. Evaluation Criteria**

The geologic resources of an area comprise all soils and bedrock materials. Therefore, an evaluation of potential impacts on geology must consider many different environmental factors such as topography, soils and sediments, seismic hazards, slope stability, mineral resources, and unique landforms. Other considerations include geological conditions that can limit development, influence contaminant distribution and migration or influence ground water resources. Impacts on geological resources would be significant if the Proposed Action substantially altered the local topography or resulted in soil compaction or erosion and sedimentation that led to sub-standard surface or groundwater quality.

#### **4.4.2. Proposed Action**

The Proposed Action would require tree maintenance crews and equipment to work within select areas of each respective tree management zone. Tree maintenance activities would create potential for soil compaction or erosion and sedimentation depending on the soil conditions, the type of tree maintenance undertaken, and whether or not site access is provided by an existing paved roadway. Under the Proposed Action, tree maintenance crews would avoid or minimize direct impacts on soils and indirect impacts on surface and groundwater resources through informed site selection for the staging of vehicles and equipment prior to and during tree maintenance activities. In areas where there is a high potential for soil compaction or erosion, control measures would be considered to mitigate or prevent adverse impacts.

Such precautions would be mandatory for any operations occurring on hydric soils or those classified as USACE jurisdictional wetlands. In addition, implementation of the Proposed Action would leave tree stumps in place, which would contain root systems that enhance soil stabilization. Therefore, the Proposed Action would result in short-term, negligible, adverse impacts on local soils that would be largely mitigated by operational considerations (e.g., locations for equipment staging, leaving root systems intact). Efforts to regenerate soils with native vegetation could reduce the potential for long-term impacts on soil erosion and sedimentation.

#### 4.4.3. No Action Alternative

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. As such, impacts on geology, topography, and soil resources encompassed by the tree management zones would be similar to those described for the Proposed Action, only over a more limited area. Soil compaction, and erosion and sedimentation would be limited to the areas requiring tree management. Because the original topsoil on and surrounding Dobbins ARB has largely eroded as a result of past development activities, the No Action Alternative would not substantially alter resource conditions on- or off-installation. Exposed clay sub-soils would continue to characterize local soil conditions on and surrounding Dobbins ARB with few exceptions.

### 4.5. Water Resources

#### 4.5.1. Evaluation Criteria

Evaluation criteria for effects on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. A proposed action would have significant effects on water resources if it were to do one or more of the following:

- Substantially reduce water availability or supply to existing users
- Overdraft groundwater basins
- Exceed safe annual yield of water supply sources
- Substantially adversely affect water quality
- Endanger public health by creating or worsening health hazard conditions
- Threaten or damage unique hydrologic characteristics
- Violate established laws or regulations adopted to protect water resources.

The potential effect of flood hazards on a proposed action is important if such an action occurs in an area with a high probability of flooding.

#### 4.5.2. Proposed Action

##### 4.5.2.1. Installation Zone

**Groundwater.** Long-term, indirect, negligible, adverse impacts on groundwater would be expected from the Proposed Action on Dobbins ARB. Groundwater at Dobbins ARB is not currently used for either potable or industrial purposes nor would it be used for such purposes under the Proposed Action. Soil compaction and disturbance from vehicle traffic during tree management could result in temporary, localized changes in drainage patterns, as compacted soil reduces infiltration and can inhibit growth of vegetation (USEPAOW 1999).

It is possible that tree management equipment could leak or spills could occur during tree management activities. In the event of a spill or leak of fuel or other contaminants, there could be adverse effects on groundwater because contaminants could seep through soils and into the underlying groundwater. All fuels and other potentially hazardous materials would be contained and stored appropriately. In the event of a spill, procedures identified in the installation's SPCC Plan would be followed to contain and clean up a spill quickly. Please see **Section 4.9** for a discussion on hazardous materials and wastes. There remains the possibility that a spill or leak could occur, but implementation of the BMPs identified in the SPCC Plan would minimize the potential for and extent of associated contamination.

**Surface Water.** Long-term, minor, adverse effects on surface water would be expected due to permanent removal of vegetation, which could increase storm water volume and velocity entering drainage channels because of reduced water absorption. This increased runoff could affect the surface water quality of receiving water bodies, particularly Big Lake, and two unnamed perennial streams on the northeast and southeast of the installation that drain into Rottenwood Creek and Poorhouse Creek, respectively. Adherence to standard engineering practices, applicable codes and ordinances, and the Dobbins ARB SWPPP would typically reduce storm water runoff-related impacts.

Short-term impacts could occur from temporarily increased soil erosion from ground disturbances and potential leaks or spills of petroleum or hazardous materials during tree management activities; however, no construction or increase in impervious surfaces would occur. Additionally, erosion- and sediment-control BMPs would be implemented to offset potential changes in hydrology.

**Wetlands and Floodplains.** Long-term, minor to moderate, adverse impacts on wetlands would be expected from the Proposed Action. Trees designated for removal on Dobbins ARB would be accessed through various roads and trails throughout the installation. All trees within 1,000 feet of the runway centerline would be removed. Trees beyond 1,000 feet from the centerline could also be removed if they violated FAA criteria. Most of the woody vegetation in wetland W-111b and portions of woody vegetation in wetland W-109 would be removed. Selected trees would also be removed from wetland W-104 on the southeast portion of the Installation Zone. As a result, water quality could be impacted and storm water volume and velocity entering drainage channels would increase because of reduced water absorption. The installation and maintenance of erosion- and sediment-control barriers and the implementation of storm water BMPs would reduce potential indirect impacts on wetlands from storm water runoff, soil erosion, and sedimentation. Short-term impacts would be the same as those described for surface waters. Necessary permits would be acquired prior to implementing tree management. Because this project would be sited within wetlands, a FONPA would be required to be prepared prior to the initiation of tree management activities.

There are no floodplains within the Installation Zone where tree removal would occur. Therefore, no impacts on floodplains in the Installation Zone would be expected from implementing the Proposed Action.

#### 4.5.2.2. Approach Zone on the West End

**Groundwater.** Impacts on groundwater would be similar to those described for the Installation Zone. Soil compaction and disturbance from vehicle traffic during tree management could result in localized changes in drainage patterns, as compacted soil reduces infiltration and can inhibit growth of vegetation. It is possible that tree management equipment could leak or spills could occur during tree management activities; however, implementation of the BMPs identified in the SPCC Plan would minimize the potential for and extent of associated contamination.



**Surface Water.** Tree management in the Approach Zone on the West End would not occur directly adjacent to any surface water; however, long-term, minor, adverse effects on surface water would be expected. The permanent removal of vegetation could increase storm water volume and velocity entering drainage channels because of reduced water absorption. This increased runoff could affect the surface water quality of receiving water bodies, particularly for Poorhouse Creek.

Short-term impacts could occur from temporarily increased soil erosion from ground disturbances and potential leaks or spills of petroleum or hazardous materials during tree management activities; however, site hydrology would be expected to remain at current (pre-management) levels because no construction or increase in impervious surfaces would occur. Additionally, erosion- and sediment-control BMPs would be implemented to offset potential changes in hydrology.

**Wetlands and Floodplains.** Long-term, negligible, adverse impacts on wetlands would be expected from the Proposed Action. Tree management would not occur within wetlands identified in this zone; however, wetlands in this zone could still be impacted from increased storm water runoff, soil erosion, and sedimentation. The installation and maintenance of erosion- and sediment-control barriers and the implementation of storm water BMPs would reduce potential indirect impacts on wetlands. Work within this zone would require a wetland and stream delineation. Based on the results of the delineation and tree management locations, any necessary permitting would be acquired prior to implementing tree management activities.

Tree management activities associated with the Proposed Action would require ground disturbance near the 100-year floodplain; however, site hydrology would be expected to remain at current (pre-management) levels because no construction or increase in impervious surfaces would occur. Long-term, negligible, adverse impacts on floodplains would be expected from increases in soil erosion and potential leaks or spills; however, these impacts would be managed by erosion- and sediment-control measures as identified in the Dobbins ARB SWPPP. Because this project would indirectly impact wetlands and the 100-year floodplain, a FONPA would be required to be prepared prior to the initiation of tree management activities.

#### 4.5.2.3. Transitional Zone on the West Approach

Impacts for water resources in the Transitional Zone on the West Approach would be similar to those of the Approach Zone on the West End; however, impacts would be less intense considering the smaller size of the zone. Work within this zone would require a wetland and stream delineation. Based on the results of the delineation and tree management locations, any necessary permitting would be acquired prior to implementing tree management activities.

#### 4.5.2.4. Approach Zone on the East End

**Groundwater.** Impacts on groundwater would be similar to those described for the Installation Zone. Soil compaction and disturbance from vehicle traffic during tree management could result in localized changes in drainage patterns, as compacted soil reduces infiltration and can inhibit growth of vegetation. It is possible that tree management equipment could leak or spills could occur during tree management activities; however, implementation of the BMPs identified in the SPCC Plan would minimize the potential for and extent of associated contamination.

**Surface Water.** Tree management in the Approach Zone on the East End would not occur directly adjacent to any surface water; however, long-term, minor, adverse effects on surface water would be expected from the permanent removal of vegetation, which could increase storm water volume and

velocity entering drainage channels because of reduced water absorption. This increased runoff could affect the surface water quality of receiving water bodies, particularly for Olley Creek.

Short-term impacts could occur from temporarily increased soil erosion from ground disturbances and potential leaks or spills of petroleum or hazardous materials during tree management activities; however, site hydrology would be expected to remain at current (pre-management) levels because no construction or increase in impervious surfaces would occur. Additionally, erosion- and sediment-control BMPs would be implemented to offset potential changes in hydrology.

***Wetlands and Floodplains.*** Long-term, negligible, adverse impacts on wetlands would be expected from the permanent removal of vegetation within the Approach Zone on the East End, which could increase storm water runoff, soil erosion, and sedimentation. The installation and maintenance of erosion- and sediment-control barriers and the implementation of storm water BMPs would reduce potential indirect impacts on wetlands. Short-term impacts would be the same as those described for surface water. Work within this zone would require a wetland and stream delineation. Based on the results of the delineation and tree management locations, any necessary permitting would be acquired prior to implementing tree management activities.

Tree management activities associated with the Proposed Action would require ground disturbance within the floodplain; however, site hydrology would be expected to remain at current (pre-management) levels because no construction or increase in impervious surfaces would occur. Long-term, negligible, adverse impacts on floodplains would be expected from increases in soil erosion and potential leaks or spills; however, these impacts would be managed by erosion- and sediment-control measures as identified in the Dobbins ARB SWPPP. Because this project would be sited within a wetland and the 100-year floodplain, a FONPA would be required to be prepared prior to the initiation of tree management activities.

#### 4.5.2.5. Transitional Zone on the East Approach

Impacts for water resources in the Transitional Zone on the East Approach would be similar to those of the Approach Zone on the East End; however, impacts would be less intense considering the smaller size of the zone. Work within this zone would require a wetland and stream delineation. Based on the results of the delineation and tree management locations, any necessary permitting would be acquired prior to implementing tree management activities.

#### 4.5.3. No Action Alternative

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Long-term, minor, adverse impacts on groundwater would include soil compaction and disturbance from vehicle traffic during tree management, which could result in localized changes in drainage patterns, as compacted soil reduces infiltration and can inhibit growth of vegetation. Long-term, minor, adverse effects on surface water, wetlands, and floodplains would be expected from the permanent removal of vegetation, which could increase storm water runoff, soil erosion, and sedimentation. It is possible that tree management equipment could leak or spills could occur during tree management activities; however, implementation of the BMPs identified in the SPCC Plan would minimize the potential for and extent of associated contamination.

## 4.6. Biological Resources

### 4.6.1. Evaluation Criteria

The factors considered when determining the significance of impacts on biological resources are based on (1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource, (2) the proportion of the resource that would be affected relative to its occurrence in the region, (3) the sensitivity of the resource to proposed activities, and (4) the duration of ecological effects. A habitat perspective is used to provide a framework for analysis of general classes of impacts on biological resources (i.e., removal of critical habitat, noise, human disturbance). Biological resources might be affected directly by ground disturbance and habitat removal, or indirectly through such changes as increased noise.

Factors to be considered when determining the significance of impacts on biological resources, including sensitive and protected species, from tree management activities include the following:

- Disturbances from activities (e.g., noise) or removal of habitat is of a sufficient magnitude to result in rendering habitat unsuitable for a particular wildlife species in the long term.
- Disturbances from activities or removal of habitat disrupt wildlife to a magnitude that causes a substantial reduction in population size (i.e., population-level effect) from an increase in mortality or decrease in reproductive output.

Disturbances from activities or removal of habitat jeopardizes the continued existence of a threatened or endangered species in the area or results in the destruction or adverse modification of federally designated critical habitat in the affected area.

### 4.6.2. Proposed Action

#### 4.6.2.1. Installation Zone

**Vegetation.** Long-term, minor to moderate, direct, adverse impacts on vegetation would be expected within the Installation Zone from tree felling or trimming. Tree management would occur within approximately 46 acres of forested habitat on Dobbins ARB. The selective removal of woody vegetation could result in conversion or degradation of habitat; however, only trees designated as obstructions would be removed. Tree management would primarily occur in the northern forest stands on the installation; however, impacts from tree management on the southern forest stands would also be expected.

A variety of nonnative and invasive vegetation occurs throughout Dobbins ARB. Disturbances to the canopy or ground surface in the forested habitat could also allow opportunities for nonnative and invasive species to establish or spread within this forested habitat, resulting in long-term, minor to moderate, adverse effects on vegetation. The following BMPs would be implemented during and following management activities to prevent the establishment or spread of nonnative species:

- Inspect and clean management equipment to remove soil, plants, and seeds
- Stage management equipment in areas free of nonnative plant species
- Use weed-free materials (e.g., grass seed, mulch, gravel, sand)
- Promptly revegetate disturbed sites with native plant species
- Minimize soil disturbance and implement erosion-control practices.

**Wildlife.** Short-term, direct, minor, adverse impacts on wildlife would be expected in the Installation Zone due to noise disturbances from tree management activities, which include heavy equipment use.

High noise events could cause wildlife to engage in escape or avoidance behaviors; however, these effects would be temporary. Increases in ambient noise can reduce communication, inhibit predator detection, and increase energy expenditures in wildlife species. Noise can also distort or mask bird's communication signals (e.g., songs, warning calls, fledgling begging calls) and ability to find prey or detect predators (USEPA 1980). If noise persists in a particular area, animals could leave their habitat and avoid it permanently. Avoidance behavior by animals requires the expenditures of excess energy that is needed for survival (e.g., finding new food sources, water sources, and breeding and nesting habitats) (USEPA 1980). Wildlife species occurring in the area would be expected to be accustomed to high levels of noise due to their proximity to the airfield. Most wildlife species would be expected to recover quickly from noise disturbance once the management activities have ceased for the day and after the management period is complete. Noises associated with tree management activities would only be expected to affect individual animals within close proximity to the noise sources. As a result, population-level impacts would not be expected to occur.

Long-term, minor to moderate, adverse effects on wildlife would be expected from tree management due to permanent removal of habitat. The forested areas of Dobbins ARB provide suitable habitat for a variety of species, particularly songbirds and small game and nongame animals typically found in urban environments. Several wildlife species occurring within the forested habitat are anticipated to be more specific in their habitat requirements and less accustomed to human disturbances. These species would not be able to find other suitable habitats in the vicinity as readily as more urbanized species. However, impacts on these species would be similar to those species found in more urban environments because the affected habitat would only compose a small percentage of the habitat available in the region.

Long-term, minor, direct, adverse impacts on wildlife could also be expected from mortality of smaller, less mobile wildlife species (e.g., reptiles, amphibians, rodents) that cannot avoid removal equipment or from wildlife species that nest or live within trees (e.g., squirrels, opossums) that are removed during tree-removal activities. As discussed in the following section, vegetation-removal activities should occur outside of the migratory bird nesting season to avoid impacts on breeding birds and nests.

***Protected and Sensitive Species.*** No federally listed threatened, endangered, or candidate species or GADNR special concern species have been documented within the Installation Zone. Very few areas on Dobbins ARB have the potential to support sensitive species. Several populations of pink ladyslipper exist on the installation; however there is limited habitat to support the species and those populations do not occur in the Installation Zone. Although very unlikely, if a population of pink ladyslippers is discovered with more than 100 plants within a forested area, a 50-foot buffer should be created to protect the population from disturbances per the U.S. Forest Service and GADNR recommendations. Any discovered occurrences of pink ladyslippers would be avoided to the greatest extent practicable. Therefore, no impacts on federally or state-listed species would be expected from tree management in the Installation Zone.

The Migratory Bird Treaty Act and EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, require Federal agencies to minimize or avoid impacts on migratory birds listed in 50 CFR 10.13. Tree management would be conducted in a manner to avoid adverse impacts on migratory birds to the greatest extent practicable and it is not anticipated that the Proposed Action would have any measureable negative impacts on migratory birds (e.g., direct mortality, decrease in population size, decrease in fitness, repetitive nest failure). However, impacts on migratory birds from long-term habitat removal would be similar to those previously discussed for wildlife. BMPs, which are discussed as follows for migratory birds, are recommended for reduction or avoidance of impacts on migratory bird species within the Installation Zone, particularly since trees would be removed.

Nesting season for migratory birds typically occurs from mid-March through August starting when migratory birds would return to the management area and ending after all young have fledged. Tree management should occur outside of that time period to avoid incidental take. If tree management is scheduled to start during the period when migratory birds are present, a site-specific survey for nesting migratory birds should be performed immediately prior to the activities. If nesting birds are found during the survey, buffer areas should be established around nests. Activities should be deferred in buffer areas until birds have left the nest.

Similarly, tree management would be conducted in a manner to avoid adverse impacts on Indiana bats and it is not anticipated that the Proposed Action would have any measureable negative impacts on this species. Indiana bats are generally active from April through September when the bats emerge and return to their hibernacula. Maternal colonies are particularly vulnerable to disturbance while pups are non-volant between May 1 and August 15. Tree management should occur outside of these time periods to avoid incidental take. If tree management is scheduled to start during a period where Indiana bats are present, a site-specific survey for roosting bats should be performed prior to management activities. If bats were discovered during the survey, buffer areas would be established around the roost and activities would be deferred until the bats have left the roost.

#### 4.6.2.2. Approach Zone on the West End

**Vegetation.** Long-term, minor, direct, adverse impacts on vegetation would be expected from tree management within the Approach Zone on the West End. Tree removal or trimming would occur over a smaller area than the Installation Zone and there are fewer trees within this zone than there are on the installation. However, the selective removal of woody vegetation could still result in conversion or degradation of habitat. Only trees designated as obstructions would be removed, reducing impacts on vegetation.

Disturbances to the canopy or ground surface in the forested habitat could also allow opportunities for nonnative and invasive species to establish or spread within this forest stand, resulting in long-term, minor, adverse effects on vegetation. BMPs as described for the Installation Zone should be implemented during and following management activities to prevent the establishment or spread of nonnative species.

**Wildlife.** Short-term, direct, minor, adverse impacts on wildlife would be expected in the Approach Zone on the West End due to noise disturbances as a result of tree management activities, similar to those described for the Installation Zone. High noise events could cause wildlife to engage in escape or avoidance behaviors; however, these effects would be temporary. If noise persists in a particular area, animals could leave their habitat and avoid it permanently. Wildlife species occurring in the area would be expected to be accustomed to high levels of noise due to their proximity to the airfield and most wildlife species would be expected to recover quickly from noise disturbance once the management activities have ceased. Population-level impacts would not be expected to occur.

Long-term, minor, adverse effects on wildlife would be expected from tree management due to permanent removal of habitat. Species that are habitat generalists would be able to find other suitable habitats more readily than more specialized species. Wildlife within forested habitat could be more specific in their habitat requirements and less accustomed to human disturbances; however, tree management off-installation would occur in fragmented landscapes that are already highly urbanized. Wildlife associated with these habitats would be expected to be habituated to the urban environment and find other suitable habitats in the vicinity.

Long-term, minor, direct, adverse impacts on wildlife could also be expected from mortality of smaller, less-mobile wildlife species or from wildlife species that nest or live within trees that are removed during tree-removal activities as described in the Installation Zone.

***Protected and Sensitive Species.*** Impacts on protected and sensitive species would be similar to those described for wildlife. Federally listed threatened, endangered, or candidate species would be expected to occur in the Approach Zone on the West End. Several GADNR-listed species have the potential to occur in this zone. Although very unlikely, if a population of listed plants is discovered, they would be protected, as necessary, to avoid impacts. Any discovered occurrences of listed plants would be avoided to the greatest extent practicable.

Generally, trees would not be removed near Olley Creek; however, the potential for impacts on protected and sensitive species associated with the watershed exists because tree removal could increase storm water volume and velocity entering drainage channels. Adherence to standard engineering practices, applicable codes and ordinances, and the Dobbins ARB SWPPP would be expected to minimize storm water runoff-related impacts. Therefore, no adverse impacts on federally or state-listed aquatic species would be expected from tree management in the Approach Zone on the West End.

Tree management would be conducted to avoid adverse impacts on migratory birds to the greatest extent practicable; however, impacts on migratory birds from long-term habitat removal would be similar to those previously discussed for wildlife. BMPs, which are discussed as follows for migratory birds, are recommended for reduction or avoidance of impacts on migratory bird species.

Nesting season for migratory birds typically occurs from mid-March through August starting when migratory birds would return to the management area and ending after all young have fledged. Tree management should occur outside of that time period to avoid incidental take. If tree management is scheduled to start during the period when migratory birds are present, a site-specific survey for nesting migratory birds should be performed immediately prior to the activities. If nesting birds are found during the survey, buffer areas should be established around nests. Activities should be deferred in buffer areas until birds have left the nest.

Tree management off-installation would occur in highly urban areas in sparsely populated tree stands, which are generally not suitable Indiana bat habitat. Regardless, tree management would be conducted in a manner to avoid adverse impacts on this species. Indiana bats are generally active from April through September when the bats emerge and return to their hibernacula. Maternal colonies are particularly vulnerable to disturbance while pups are non-volant between May 1 and August 15. Tree management should occur outside of these time periods to avoid incidental take. If tree management is scheduled to start during a period where Indiana bats are present, a site-specific survey for roosting bats should be performed prior to management activities. If bats were discovered during the survey, buffer areas would be established around the roost and activities would be deferred until the bats have left the roost.

#### 4.6.2.3. Transitional Zone on the West Approach

Impacts for biological resources in the Transitional Zone on the West Approach would be similar to those of the Approach Zone on the West End; however, impacts would be less intense considering the smaller size of the zone.

#### 4.6.2.4. Approach Zone on the East End

***Vegetation.*** Long-term, minor, direct, adverse impacts on vegetation would be expected from tree management within the Approach Zone on the East End, similar to those on the Approach Zone on the



West End. Tree removal or trimming would occur over less than half the area that would occur in the Installation Zone. Trees within this zone are primarily associated with commercial properties and are less dense than those on the installation or the Approach and Transitional Zones on the West End; however, the selective removal of woody vegetation could still result in conversion or degradation of habitat. Only trees designated as obstructions would be removed, reducing impacts on vegetation.

Although most trees designated for removal would occur in fragmented stands not directly connected to large forested habitat, disturbances to the canopy or ground surface could also allow opportunities for nonnative and invasive species to establish or spread within the forest stand, resulting in long-term, minor, adverse effects on vegetation. BMPs as described for the Installation Zone should be implemented during and following management activities to prevent the establishment or spread of nonnative species.

**Wildlife.** Short-term, direct, minor, adverse impacts on wildlife would be expected in the Approach Zone on the East End due to noise disturbances as a result of tree management activities, similar to those described for the Installation Zone. High noise events could cause wildlife to engage in escape or avoidance behaviors; however, these effects would be temporary. If noise persists in a particular area, animals could leave their habitat and avoid it permanently. Wildlife species occurring in the area would be expected to be accustomed to high levels of noise due to their proximity to the airfield and most wildlife species would be expected to recover quickly from noise disturbance once the management activities have ceased. Population-level impacts would not be expected to occur.

Long-term, minor, adverse effects on wildlife would be expected from tree management due to permanent removal of habitat. Species that are habitat generalists would be able to find other suitable habitats more readily than more specialized species. Wildlife within forested habitat could be more specific in their habitat requirements and less accustomed to human disturbances; however, tree management off-installation would occur in fragmented landscapes that are already highly urbanized. Wildlife associated with these habitats would be expected to be habituated to the urban environment and find other suitable habitats in the vicinity.

Long-term, minor, direct, adverse impacts on wildlife could also be expected from mortality of smaller, less-mobile wildlife species or from wildlife species that nest or live within trees that are removed during tree-removal activities as described in the Installation Zone.

**Protected and Sensitive Species.** Impacts on protected and sensitive species would be similar to those described for wildlife. Federally listed threatened, endangered, or candidate species would be expected to occur in the Approach Zone on the East End. Several GADNR-listed species have the potential to occur in this zone. Although very unlikely, if a population of listed plants is discovered, they would be protected, as necessary, to avoid impacts. Any discovered occurrences of listed plants would be avoided to the greatest extent practicable.

Generally, trees would not be removed near Poorhouse Creek; however, the potential for impacts on protected and sensitive species associated with the watershed exists because tree removal could increase storm water volume and velocity entering drainage channels. Adherence to standard engineering practices, applicable codes and ordinances, and the Dobbins ARB SWPPP would typically reduce storm water runoff-related impacts. Therefore, no adverse impacts on federally or state-listed aquatic species would be expected from tree management in the Approach Zone on the East End.

Tree management would be conducted to avoid adverse impacts on migratory birds to the greatest extent practicable; however, impacts on migratory birds from long-term habitat removal would be similar to those previously discussed for wildlife. BMPs, which are discussed as follows for migratory birds, are

recommended for reduction or avoidance of impacts on migratory bird species within the Approach Zone on the East End, particularly since trees would be removed.

Nesting season for migratory birds typically occurs from mid-March through August starting when migratory birds would return to the management area and ending after all young have fledged. Tree management should occur outside of that time period to avoid incidental take. If tree management is scheduled to start during the period when migratory birds are present, a site-specific survey for nesting migratory birds should be performed immediately prior to the activities. If nesting birds are found during the survey, buffer areas should be established around nests. Activities should be deferred in buffer areas until birds have left the nest.

Tree management off-installation would occur in highly urban areas in sparsely populated tree stands, which are generally not suitable Indiana bat habitat. Regardless, tree management would be conducted in a manner to avoid adverse impacts on this species. Indiana bats are generally active from April through September when the bats emerge and return to their hibernacula. Maternal colonies are particularly vulnerable to disturbance while pups are non-volant between May 1 and August 15. Tree management should occur outside of these time periods to avoid incidental take. If tree management is scheduled to start during a period where Indiana bats are present, a site-specific survey for roosting bats should be performed prior to management activities. If bats were discovered during the survey, buffer areas would be established around the roost and activities would be deferred until the bats have left the roost.

#### **4.6.2.5. Transitional Zone on the East Approach**

Impacts for biological resources in the Transitional Zone on the East Approach would be similar to those of the Approach Zone on the East End; however, impacts would be less intense considering the smaller size of the zone.

#### **4.6.3. No Action Alternative**

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Long-term, minor, adverse, impacts on vegetation would be expected from tree removal or tree trimming. Disturbances to the canopy, particularly on the installation, could allow for invasive species to establish or spread; however, BMPs would be implemented to prevent the establishment or spread of those species. Wildlife would experience short-term, minor, adverse impacts from noise disturbances associated with tree removal and long-term, minor, adverse impacts from permanent habitat removal. Mortality of less mobile species could also occur. No impacts on protected and sensitive species would be expected; however, removal activities should still occur outside of migratory bird nesting season to avoid impacts on breeding birds and nests.

### **4.7. Cultural Resources**

#### **4.7.1. Evaluation Criteria**

Adverse impacts on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; general neglect of the resource to the extent that it deteriorates or is destroyed; or the sale, transfer, or lease of the property out of the agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

#### 4.7.2. Proposed Action

##### 4.7.2.1. Installation Zone

No impacts on cultural resources would be expected within the Installation Zone. One identified resource is directly within this zone: Big Lake Dam, just north of the runway in the central area of the installation. The historical integrity of Big Lake Dam was compromised with structural repairs undertaken in 2008. No other intact elements of this early manufacturing and municipal water system remain, leaving no potential cultural landscape to be affected. As some historic portions of the dam remain, with contemporary repairs, heavy tree-removal equipment should be used with care in the immediate vicinity of the structure.

The Bankston-Rock House and the Bell Bomber Historic District on AFP-6 are within the viewshed of this management zone, but will not be impacted, either directly or indirectly, by the trimming or removal of any trees.

##### 4.7.2.2. Approach and Transitional Zones

No impacts on cultural resources would be expected within the Approach Zone on the West End. One resource at 244 Walthall Street, just west of Austell Road, was identified in a previous survey of historic-age resources in unincorporated Cobb County. There will be no direct effect on the house. The removal of trees in the vicinity of the structure could affect a cultural landscape, though none have been identified.

There are no known cultural resources within the Approach Zone on the East End or either transitional zone and, therefore, no impacts on cultural resources would be expected in these zones.

#### 4.7.3. No Action Alternative

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Impacts on cultural resources would be similar to those described under the Proposed Action, but would occur over a smaller area. Therefore, no impacts on cultural resources would be expected from the No Action Alternative.

### 4.8. Infrastructure

#### 4.8.1. Evaluation Criteria

The capacity and condition of infrastructure systems and structures largely determines the level-of-service which accrues to a community or population. An evaluation of potential impacts on infrastructure resources must therefore determine whether a proposed action would exceed the capacity of such systems, result in service interruptions, or otherwise lead to sub-standard operations. Impact thresholds can also be specific to a particular type of infrastructure such as permit requirements and relevant operational considerations (e.g., treatment and disposal practices, and efficiency and conservation).

#### 4.8.2. Proposed Action

Due to the nature of tree maintenance activities, the selection of the Proposed Action would not affect the capacity or condition of potable water, sanitary sewer or wastewater, storm water, or natural gas

infrastructure systems and structures because ground-disturbing activities would be minimal and would not be expected to impact the integrity or capacity of any of these systems.

**Transportation.** The selection of the Proposed Action would have a short-term, minor, adverse impact on the roadways within each respective tree management zone due to equipment staging before and during maintenance activities that would reduce traffic flow and circulation. With respect to air transportation to and from Dobbins ARB, the implementation of the Proposed Action would, at a minimum, maintain the efficiency of existing airfield operations. There would be no impact on aircraft operations during on proposed activities.

**Liquid Fuels.** The Proposed Action would require the use of liquid fuels for vehicles and equipment necessary to conduct tree maintenance. Contractors would be hired to complete the tree management activities; therefore, liquid fuels would be obtained off-installation. There is adequate capacity to support implementation of the Proposed Action and any impacts on this resource would be short-term, negligible, and adverse.

**Solid Waste.** Implementation of the Proposed Action would generate vegetative waste from tree maintenance activities. These wastes would be staged and collected near the management site and would either be re-purposed as wood fuel, mulched for landscaping, or properly disposed of in an approved landfill. Therefore, impacts on solid waste associated with the Proposed Action would be short-term, negligible, and adverse.

**Communications.** The Proposed Action has the potential to inadvertently interfere or damage communications systems and structures during tree maintenance activities. However, the contractor would take appropriate precautions to minimize potential effects on communications infrastructure such site reconnaissance prior to tree maintenance. The selection of the Proposed Action would also result in long-term, negligible, beneficial impacts on airfield communication systems such as radars and instrument landing systems. Private sector systems and structures could also benefit from an improved line of sight between telecommunications infrastructure that would result from off-installation tree maintenance.

#### 4.8.3. No Action Alternative

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. As such, impacts on infrastructure within the tree management zones would be similar to those described for the Proposed Action, only over a more limited area. The No Action Alternative would result in temporary, minor disruptions to the transportation network on and surrounding Dobbins ARB; however, impacts on the larger transportation network in terms of traffic flow and circulation would be negligible. The No Action Alternative would require the limited use of liquid fuels to support tree maintenance activities, but impacts on related infrastructure would be negligible in comparison to the requirements that support ongoing airfield operations. In addition, a limited amount of solid waste would be generated, which would be either repurposed or disposed of in compliance with applicable rules and regulations. Implementation of the No Action Alternative would, however, result in long-term, adverse impacts on communications systems in the vicinity of Dobbins ARB, including those required for the safe and efficient operation of the airfield.

## **4.9. Hazardous Materials and Wastes**

### **4.9.1. Evaluation Criteria**

When released to the environment, hazardous materials and waste have the potential to contaminate air, land, and water resources. The inherent toxicity of such chemicals, their long-term persistence in the environment, and their ability to move through various environmental mediums increase the risk of exposure to plants, animals, and humans. With respect to the Proposed Action, potential impacts from the use or location of hazardous materials and waste would be significant if the likelihood of such an occurrence increased or if procedures were not in place to minimize exposure risks during and after an event such as a spill.

### **4.9.2. Proposed Action**

Implementation of the Proposed Action would require the use of POL materials in support of tree maintenance activities. The vehicles and equipment necessary to conduct such activities must be maintained, employed, and returned to storage after use. However, implementation of the Proposed Action would be in full compliance with AFI 32-7086, Hazardous Materials Management and with the installation-specific management plans for such substances. Tree management zones off-installation would also be subject to Air Force hazardous materials management policies and protocols. Tree management would occur on and around several of the IRP sites located adjacent to the airfield including DP-06, OT-04, FT-03, and FT-02, which contain tree stands that would be subject to maintenance under the Proposed Action. Any ground-disturbing activities in these areas would be subject to the provisions of AFI 32-7086, and any contaminated materials (e.g., soils) would be collected and disposed of in accordance with the applicable rules and regulations therein.

Within the Installation Zone, the Proposed Action would apply pesticides in select areas following tree maintenance to control pest species such as mosquitos and nuisance weeds, and to support regeneration with native species that would be compatible with airfield operations. Under the Proposed Action, all pesticide applications would comply with the provisions of DOD Instruction 4150.07, DOD Pest Management Program. Therefore, potential adverse impacts from the use of hazardous materials and waste associated with the Proposed Action would be short-term, negligible, and adverse.

### **4.9.3. No Action Alternative**

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Hazardous materials and waste protocols would remain in place to prevent the occurrence of an inadvertent spill and the subsequent risks to the human environment. Environmental restoration programs would continue to manage IRP sites and respond to any incidents in accordance with Air Force policy and substance-specific management plans and guidance. The selection of the No Action Alternative could risk an accidental release of POL materials; however, the overall risk of such an incident would not be greatly reduced given the nature of airfield operations at Dobbins ARB. The No Action Alternative would apply pesticides in select areas on the installation following tree maintenance to control pest species, such as mosquitos and nuisance weeds, and to support regeneration with native species that would be compatible with airfield operations. Under the No Action Alternative, all pesticide applications would comply with the provisions of DOD Instruction 4150.07, DOD Pest Management Program.

## 4.10. Safety

### 4.10.1. Evaluation Criteria

Human health and safety impacts stem from various types of stressors, hazards, and concerns as related to a proposed action. Dependent on the nature of a proposed activity, potential impacts could be physical, behavioral, psychological, or chemical; the severity of which would depend on the affected person or population and other environmental factors. With respect to the Proposed Action, human and health safety impacts would be significant if worker safety was compromised, if operational aircraft safety posed a risk to the public, pilot, or any passengers, or if disproportionate health risks accrued to a more susceptible population such as children.

### 4.10.2. Proposed Action

**Contractor Safety.** Under the Proposed Action, safety risks to contractors performing construction work in the tree management zones would slightly increase because of the increase in the level of maintenance activities. All contractors conducting tree maintenance on behalf of Dobbins ARB would be responsible for the implementation of applicable safety regulations and worker compensation programs. For example, contractors would be responsible for the review of potentially hazardous workplace operations, monitoring exposure to workplace chemicals, identification and mitigation of physical and biological agents, implementation of control measures to ensure personnel receive adequate protection from occupational risks, and for the adequacy of medical surveillance in the case of an accident.

During implementation of the Proposed Action off-installation, the contractor would also be responsible for the health and safety of citizens and property owners. Access to such sites would receive prior approval through an appropriate agreement between the AFRC and an affected individual or party. The health and safety of private citizens would be taken into account as part of any property access agreement through the completion of the Proposed Action to minimize risks to people and property during implementation.

**Accident Potential Zones.** The selection of the Proposed Action would reduce the probability for an aircraft accident to occur within the clear zone, APZ I, and APZ II, respectively. Implementation of the Proposed Action would address the maintenance of trees that are considered obstructions to air navigation (as determined by the imaginary surfaces) and would, therefore, enhance public, pilot, and passenger safety with respect to aircraft operations.

**Fire Hazards and Public Safety.** Implementation of the Proposed Action would result in a short-term, negligible risk of a fire occurrence associated with tree management equipment and, in particular, the use of liquid fuels to operate such equipment. However, risks to public safety from an accidental fire would be minimized by fuel management BMPs and the use of qualified contractor personnel trained to reduce safety hazards associated with tree management operations.

**Protection of Children.** The selection of the Proposed Action would not increase environmental health and safety risks to children from products or substances that cause a disproportionate effect on them as compared to adults. Military family housing is not present on Dobbins ARB and, therefore, no children are permanent residents of the installation. Off-installation tree management areas would be temporarily unavailable for public use while tree management activities were conducted. Environmental health and safety risks would be mitigated by informing children and guardians, via signage or traffic control, that the management area would no longer be available for public use. Therefore, no effects on children would be expected under the Proposed Action.



Overall, there would be no long-term, significant, adverse impacts on human health and safety that would result from the implementation of the Proposed Action.

#### 4.10.3. No Action Alternative

Under the No Action Alternative, tree management would still occur, but would be limited to properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Potential risks to worker safety and health would therefore be reduced due to the smaller geographic area subject to tree management. The No Action Alternative would be implemented in accordance with all applicable safety regulations and worker compensation programs thereby minimizing risks to workers, installation personnel, and the general public. The selection of the No Action Alternative would, however, increase the potential for an aircraft accident to occur in areas off-installation within the clear zone, APZ I, or APZ II because tree obstructions in areas without existing real estate agreements would continue to represent a flight hazard for aircraft operations. The No Action Alternative would pose similar environmental safety and health risks to children as those described under the Proposed Action.

### 4.11. Socioeconomics and Environmental Justice

#### 4.11.1. Evaluation Criteria

***Socioeconomics.*** The significance of socioeconomic impacts is assessed in terms of direct impacts on the local economy and related impacts on other socioeconomic resources (e.g., income, housing, and employment). The magnitude of potential impacts can vary greatly, depending on the location of a proposed action. For example, implementation of an action that creates 10 employment positions might be unnoticed in an urban area, but could have significant impacts in a rural community. If potential socioeconomic changes were to result in substantial shifts in population trends or regional spending and earning patterns, they would be considered significant.

***Environmental Justice.*** Ethnicity and poverty data are examined for the ROI and compared to city, county, and state statistics to determine if a low-income or minority population could be disproportionately affected by the Proposed Action.

#### 4.11.2. Proposed Action

##### 4.11.2.1. Installation Zone

Short-term, negligible, beneficial impacts on the local economy from increases in employment and local business volume during tree management operations would be expected from the potential influx of personnel to complete the Proposed Action.

No environmental justice issues would be expected, as tree management in this area would occur entirely on Dobbins ARB property.

##### 4.11.2.2. Approach and Transitional Zones

Short-term, negligible, beneficial impacts on the local economy from increases in employment and local business volume during tree management operations would be expected from the potential influx of personnel to complete the Proposed Action. However, short-term, negligible, adverse impacts on local businesses could occur from disturbances or sidewalk closings associated with tree removal.

Short- and long-term, minor, adverse, but not disproportionate, impacts on minority and low-income populations could be expected from the Proposed Action in this zone. Removal of trees from private properties adjacent to the installation would create a short-term disturbance to and safety risk for residents during tree removal. Additionally, potential long-term degradation of green space from tree removal could occur, although new, smaller vegetation could replace trees removed.

#### 4.11.3. No Action Alternative

Long-term, minor, adverse impacts on socioeconomic resources and minority and low-income populations would be expected from implementation of the No Action Alternative. Under this alternative, tree management would only be pursued within properties where the Air Force has a legally cognizable property interest, over which an earlier tree management EA has already been accomplished. Tree obstructions could become a safety concern to the extent that the installation would suspend flight operations. Consequently, the installation might be unable to fulfill its flying mission and the welfare of populations on and adjacent to the installation could be negatively impacted. Additionally, the beneficial economic impacts of the Proposed Action would occur, but would be less intense because they cover a smaller area.

***THIS PAGE INTENTIONALLY LEFT BLANK***

## 5. CUMULATIVE AND OTHER POTENTIAL ADVERSE IMPACTS

CEQ regulations stipulate that the cumulative effects analysis in an EA should consider the potential environmental effects resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR Part 1508.7). CEQ guidance in considering cumulative effects affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with a proposed action. The scope must consider other projects that coincide with the location and timetable of a proposed action and other actions. Cumulative effects analyses must also evaluate the nature of interactions among these actions (CEQ 1997).

### 5.1. Cumulative Effects

#### 5.1.1. Projects Identified for Potential Cumulative Effects

The scope of the cumulative effects analysis involves both timeframe and geographic extent in which effects could be expected to occur, and a description of what resources could be cumulatively affected. For the purposes of this analysis, the geographic area for consideration of cumulative effects is Dobbins ARB and the areas of Cobb County and the City of Marietta that surround the installation.

**Past Actions.** Past actions are those actions, and their associated impacts, that occurred within the geographical extent for potential cumulative effects that have shaped the current environmental conditions of the project area. CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions (Connaughton 2005). The effects of past actions are now part of the existing environment and are included in the affected environment described in **Section 3**.

**Projects on Dobbins ARB.** The Dobbins ARB General Plan is intended to guide the installation’s long-range development by providing an assessment of on-installation conditions, and recommendations for improvements and future development of the installation. The General Plan outlines future facility and infrastructure requirements that will enhance mission support capability (Dobbins ARB 2010a). These requirements are identified as a list of planned, programmed, and recommended projects in the General Plan’s finding and recommendations. Projects for consideration in this analysis were identified in the General Plan or in the installation’s military construction project data forms (i.e., AF Form 1391s). The following discusses installation development and planning projects on Dobbins ARB that would occur within the tree management zones on the installation:

- *Purchase AICUZ Clear Zones.* The USAF has considered purchasing privately owned commercial and residential property that lies within the clear zones for Runways 11 and 29 (Dobbins ARB 2010a, Dobbins ARB 2011c). Following purchase, structures within the clear zones would be razed and revegetated to be compatible with clear zone land use criteria. This project would entail 10 acres in the Runway 11 clear zone and 142 acres in the Runway 29 clear zone. Approximately 17,800 square feet (1,650 square meters) of facilities demolition would occur under the project, followed by 152 acres total of site restoration.
- *Construction of New Fire Station/Security Forces Complex.* A new fire station/security forces complex would be constructed immediately northeast of the existing Fire Station (Building 745) (Dobbins ARB 2010a). The proposed joint facility would combine the administration and the 24-hour operations of both services, and would provide a state-of-the-art facility for emergency

response personnel. The existing Fire Station (Building 745) would be demolished immediately following completion and occupation of the new facility.

- *Construction of AFRC Contingency Training Center.* An AFRC Contingency Training Center would be constructed that could accommodate both Civil Engineering Expeditionary Combat Support Training – Certification Center and Force Support Combat Training, and a joint and interagency use (Dobbins ARB 2010a). The AFRC Contingency Training Center would require a consolidated schoolhouse, housing, an open training area, runway access, and Airfield Damage Repair pavement pads. The proposed site is the Army Reserve area southeast of the runway, which is within the Installation Zone. The alternate site is the Cobb County Legacy Golf Course adjacent to the southeast boundary of the installation, which is not within the tree management zones.
- *Renovation of Wing Headquarters Building.* Building 729 would be renovated to become the new Wing Headquarters (Dobbins ARB 2010a). Renovation would include interior modifications and improvements to provide efficient space for Wing Headquarters staff functions. Wing Headquarters staff functions are currently in four geographically separated buildings, which results in reduced efficiency. Functions from Buildings 838, 727, 737, and 827 would be relocated to Building 729.
- *Relocation of 700th Airlift Squadron.* The 700th Airlift Squadron (700 AS) would be relocated to Bay 1 of Building 838 after Wing Headquarters functions have departed (see “Renovation of Wing Headquarters Building”). This relocation would consolidate 700 AS operations into a single facility on the flightline and provide adequate space for operational activities associated with its new mobility mission. Some structural changes to Bay 1 might be required to accommodate this function.
- *Storm Water Infrastructure Repair and Improvement Projects within the Airfield.* The USAF has identified several storm water projects in the vicinity of Runway 29 and Taxiway J (Dobbins ARB 2011d, Dobbins ARB 2011e, Dobbins ARB 2011f, Dobbins ARB 2011g, Dobbins ARB 2011h, Dobbins ARB 2011i). Much of the buried storm water infrastructure in the vicinity of the airfield has been in use for more than 70 years. The airfield pavements have been lengthened and facilities expanded over time, and some storm water systems cannot handle current flows. Additionally, many of the pipes and materials have deteriorated with age. Planned work in Basins II through VIII east and west of Taxiway J includes repairs of manholes, repair of cave-ins around grate inlets, repairs to all headwalls in the clear zones, cleanup and removal of debris from blocked drainages, and regrading and sodding for positive drainage. In the vicinity of Runway 29, installation of a detention pond upstream of pond 6, and two underground retention ponds between Runway 29 Overrun and the Yellow Freight Trucking Company and another in close proximity to Runway 29. A standpipe in the clear zone would also be removed.
- *Addition to Base Contracting/Base Supply.* An addition would be constructed to the Base Supply Warehouse (Building 812) (Dobbins ARB 2011j). The addition would be single-story with a footprint of 6,610 square feet (614 square meters).
- *Construct Addition to Building 747.* A second-story addition would be constructed for Building 747, which is the Transportation Proficiency Center (Dobbins ARB 2011k). The existing classrooms and laboratories are not adequate to support the future growth to meet Aerial Port readiness tasking.

There are many other projects planned and programmed projects on Dobbins AFB that would occur outside the Installation Zone. Since these projects are outside the tree management zones, they would have less potential for cumulative effects. These projects are as follows:

- Construction of New Fitness Center (Dobbins ARB 2010a)
- Recreation Area/Lodging Campus Projects (Dobbins ARB 2010a)
- Construction of a Commissary (Dobbins ARB 2010a, Dobbins ARB 2012d)
- Expansion of Lockheed Martin Aeronautics Material Recycling Facility within AFP-6 (Dobbins ARB 2011m).

**Roadmap to Marietta's Future: 2006 to 2030 Comprehensive Plan.** The *City of Marietta Comprehensive Plan 2006–2030* provides a strategic long-term vision that includes basic goals, objectives, policies, and recommendations to guide future growth and development (City of Marietta undated). Designated future land uses surrounding Dobbins ARB are varied but include parks and recreation, industrial warehousing, community service and institutions, and community activity centers.

**Community Agenda: Cobb County 2030 Comprehensive Plan.** The *Cobb County 2030 Comprehensive Plan* provides recommendations to the community that take into account the cumulative impacts when directing growth so that important resources will be preserved (Cobb County 2010). The areas surrounding Dobbins ARB are identified for primarily community activity centers and city uses. No specific development projects have been identified.

**Construction of Marietta Trail System Multi-Use Trail.** The City of Marietta plans to construct several new segments of a multi-use trail within the Marietta Trail System. One planned trail segment would be along South Cobb Drive, just north of Dobbins AFB (Cobb County 2011). Two additional segments are planned, one along Cemetery Street, and the other between West Atlanta Street SE and South Fairground Street SE (City of Marietta 2013b). These trails would be outside the Proposed Action tree management zones.

### 5.1.2. Resource-Specific Cumulative Effects

**Air Quality.** Past and current development and stationary and mobile sources at Dobbins ARB and in Cobb County have impacted regional and local air quality, and future activities in these areas would continue to impact local and regional air quality. As shown in **Table 4-2**, the operation of heavy machinery for removing trees and workers commuting to and from the work sites under the Proposed Action would contribute minor emissions to the local and regional air quality. It is likely that the projects identified in **Section 5.1.1** would result in short-term, adverse effects on air quality due to generation of particulate emissions as fugitive dust from ground-disturbing activities during construction, and generation of criteria pollutant air emissions from vehicular traffic of construction equipment and commuting construction workers. Cumulatively, the Proposed Action combined with other projects at Dobbins ARB and Cobb County that involve construction, stationary, and mobile source emissions would result in short-term, minor, adverse cumulative effects on air quality. The Proposed Action would not be a source of long-term air emissions and would, therefore, not contribute to long-term, cumulative effects on local or regional air quality.

**Noise.** Implementation of the Proposed Action would result in short-term, negligible to minor, adverse effects on the ambient noise environment from the use of heavy machinery and increase in vehicular traffic in the tree management zones. Projects that are occurring at the same time and in the same vicinity could contribute to minor, cumulative effects on noise. Construction projects identified in **Section 5.1.1** that occur within the Installation Zone (i.e., New Fire Station/Security Forces Complex, AFC Contingency Training Center, Wing Headquarters Renovation, Relocation of the 700 AS, Addition to Base Contracting/Supply, Addition to Building 747, and Storm Water Infrastructure Projects) could be adjacent to tree-felling activities, which could result in localized, short-term, adverse effects on the



ambient noise environment. However, the tree management activities and the cumulative projects within tree management zones would be along the flightline area and within noise contours, so the existing noise environment in this area fluctuates with the noise of aircraft operations. Cumulative effects associated with construction activities would be short-term. The Proposed Action would not generate noise in the long term, and would, therefore, not contribute to long-term, cumulative effects on the noise environment.

**Land Use.** Implementation of the Proposed Action would have short-term, negligible to minor, adverse effects as a result of construction-related disturbances, and long-term, minor to moderate, beneficial effects by removing airfield obstacles and complying with land use and safety criteria. Most projects identified in **Section 5.1.1** would likely not result in land use impacts because the projects would be constructed on property with similar or compatible land uses. Cumulatively, construction-related disturbances on land use would be expected to be negligible because construction-related land use conflicts, if any, would be temporary. Construction and operation of the AFRC Contingency Training Center has several constraints that would likely result in long-term, moderate, adverse effects on land use, including overlap with an existing transitional surface, apron setbacks, an IRP site (LF-01), Site DA-11 (Barrel Disposal Site), the explosive clear arc from Building 1043, and Explosive Safety-Quantity Distance arcs. The USAF purchase of the privately owned commercial and residential property, and subsequent removal of structures, within the clear zones would have long-term, beneficial effects on land use by making these areas compatible with USAF land use guidance and with Cobb County and City of Marietta planning and zoning for these areas. Long-term, beneficial cumulative effects on land use in the portions of the off-installation tree management zones that overlap with the clear zones would be expected if the USAF purchases the clear zone properties. Cumulatively, these projects would make the clear zones compatible with land use criteria and make tree management easier to accomplish in the future.

**Geological Resources.** Past development activities at Dobbins ARB and the surrounding Cobb County and City of Marietta have extensively modified geological resources, particularly soils, and current development activities continue to alter the soils. Under the Proposed Action, tree maintenance activities would have short-term, negligible effects on soils as a result of compaction and erosion and sedimentation associated with the operation of heavy equipment. Disturbed areas would be revegetated to reduce the long-term potential for soil erosion and sedimentation. While several projects identified in **Section 5.1.1** would occur on fully or partially developed land or previously disturbed land, continued development on Dobbins ARB and surrounding areas would affect soils and topography locally. This could occur through ground-disturbing activities such as grading, excavation, and recontouring of the soils, which could result in increased soil compaction and erosion. When combined with impacts from other projects, localized effects of the components of the Proposed Action would result in long-term, negligible, adverse, cumulative effects on geological resources.

**Water Resources.** Implementation of the Proposed Action would result in long-term, negligible to minor, adverse effects on groundwater, surface water, wetlands, and floodplains. The Proposed Action would compact soil and remove vegetation. Much of the woody vegetation within wetlands W-111b, W-109, and W-104 in the Installation Zone would be removed, and wetlands in the off-installation tree management zones could be indirectly affected by increased storm water runoff, soil erosion, and sedimentation. Additionally, the floodplain within the off-installation tree management zones could be affected by increases in soil erosion and potential leaks or spills. Short-term, negligible effects as a result of erosion and sedimentation from the operation of heavy equipment could also occur.

While several projects identified in **Section 5.1.1** would occur on fully or partially developed land, their implementation would further increase impervious surface area and, thereby, would have the potential to increase storm water runoff and erosion and sedimentation into surface waters. Potential increases in sedimentation and other water resource degradation from development projects would be alleviated

through the use of BMPs, and would likely be minimized through the use of design criteria and storm water management controls designed to comply with NPDES permit requirements. Wetlands and floodplains would be outside the immediate project area for the proposed tree management activities (Dobbins ARB 2012d); the presence of wetlands or floodplains near most other projects has not been identified, but any projects occurring in the vicinity of wetlands or floodplains could have adverse effects on those resources. The Proposed Action would combine with other past and future development to produce short- and long-term, minor, adverse, cumulative effects on water resources from sedimentation and erosion into surface waters and the removal of vegetation within wetlands and floodplains.

**Biological Resources.** Past development at Dobbins ARB, in conjunction with the urban expansion and development in Cobb County and the City of Marietta, has degraded historic habitat of both sensitive and common species. Tree management under the Proposed Action would result in the long-term loss of vegetation and wildlife habitat within all zones on- and off-installation, though more intense management would occur within the Installation Zone. Tree management activities would generate noise, which could disturb wildlife. Existing development and operations on Dobbins ARB and in surrounding areas currently affect vegetation and wildlife. Most projects identified in **Section 5.1.1** would occur on fully or partially developed land or previously disturbed land. Development would eliminate some areas that are currently vegetated, while revegetation of disturbed areas with native species would replace some areas of nonnative vegetation schemes and weedy areas. Conversion of existing open space to facilities would reduce wildlife habitat; however, that habitat is of low quality on Dobbins ARB due to historic land uses for military and industrial purposes. The Proposed Action, in conjunction with past and future development both on and off the installation, would result in overall long-term, minor, adverse, cumulative effects on biological resources from the reduction in habitat and permanent loss of vegetation.

**Cultural Resources.** No adverse effects on cultural resources were identified with any of the tree management zones under the Proposed Action. Because the Proposed Action would have no effects on any archaeological sites or culturally significant buildings or structures, it would not contribute to cumulative effects on cultural resources.

**Infrastructure.** The Proposed Action would have short-term, minor effects on transportation systems, liquid fuel systems, solid waste systems, and potential communications systems. Vehicles and equipment used for tree management would generate minor increases in vehicular traffic and consume liquid fuels. Vegetative waste would be generated and repurposed or disposed of, as appropriate. Communications systems could be interfered with or damaged during tree management activities, but the contractor would take measures to minimize this prior to initiating tree management activities in each zone. Impacts on infrastructure and utility systems due to implementation of projects identified in **Section 5.1.1** would include possible short-term interruptions of service and long-term increased demand of utility system services. It is likely that these effects would not be significant as service interruptions would be temporary and only occur during tree management activities. Any increased demand for utilities could be accommodated by the existing utility system capacity. Construction activities occurring at the same time and in the same vicinity could have short-term, minor, adverse cumulative effects on transportation systems due to increased traffic from construction vehicles. This increased traffic would be intermittent and temporary; therefore, these effects would not be significant. Implementation of all projects would result in short-term, minor, adverse, cumulative effects as a result of increased solid waste generation. It is anticipated that much of the clean demolition and construction and vegetative debris could be recycled, repurposed, or mulched instead of disposed of in a landfill or rubble fill. The Proposed Action would not affect the capacity or condition of potable water; sanitary sewer or wastewater; storm water; natural gas; or heating, ventilation, and air conditioning infrastructure systems and structures and would, therefore, not contribute to long-term, cumulative effects on these infrastructure systems.

***Hazardous Materials and Hazardous Waste.*** The Proposed Action would require the use of POL materials in equipment during tree maintenance and the use of pesticides in select areas following tree maintenance. These materials would be used in accordance with applicable regulations, and negligible effects are anticipated. Impacts from the use of hazardous materials and POL materials for construction of the projects identified in **Section 5.1.1** would depend on the quantity and nature of the materials used; it is assumed that BMPs and adherence to all applicable Federal, state, and local regulations would reduce the potential for adverse effects from their use. There is an IRP site within the proposed site of the AFRC Contingency Training Center, which is a constraint to development. The cumulative use of hazardous materials and POL materials in projects on Dobbins ARB and surrounding areas would increase; however, the type and quantity of these is unknown. The proper use and disposal of these materials would reduce or eliminate any adverse effects from them. The USAF adheres to sustainable building practices. These practices generally use materials that are the least hazardous. For future construction projects, Dobbins ARB would implement fewer hazardous materials as replacement materials become available. Therefore, no cumulative effects on hazardous materials would be expected.

***Human Health and Safety.*** The Proposed Action would have long-term, beneficial effects on safety by removing or trimming trees that are considered obstructions to air navigation. There would also be a short-term increase in the risk to members of the public during tree management activities within the off-installation tree management zones, though the health and safety of private citizens would be taken into account as part of any property access agreement to minimize risks to people and property during implementation. Construction of the projects identified in **Section 5.1.1** could increase safety risk to contractors performing construction work; however, most of these projects would be required to develop and adhere to health and safety plans. The USAF purchase of the privately owned commercial and residential property, and subsequent removal of structures, within the clear zones would have long-term, beneficial effects on safety by clearing areas of land that have a comparatively higher potential for aircraft accidents. Long-term, beneficial cumulative effects on safety in the portions of the off-installation tree management zones that overlap with the clear zones would be expected if the USAF purchases the clear zone properties. Cumulatively, these projects would make the clear zones compatible with land use and safety criteria and make tree management easier to accomplish in the future.

***Socioeconomics and Environmental Justice.*** The Proposed Action would result in short-term, negligible, beneficial effects on the local economy from increases in employment and local business volume. Short-term, negligible, adverse effects on local businesses within the off-installation tree management zones could also occur if tree management activities temporarily reduced or prevented access to businesses. Additionally, short-term, minor, adverse, but not disproportionate, effects on minority and low-income populations could occur within the off-installation tree management zones due to an increased safety risk for residents during tree management. Construction of the projects in **Section 5.1.1** would result in short-term, negligible to minor, beneficial effects on the local economy due to increases in employment and local business volume during construction activities. The ROI has higher percentages of minority, low-income, and Hispanic or Latino populations than the State of Georgia; therefore, projects could result in effects on these populations due to increased traffic. However, these effects are not expected to be disproportionately adverse on minority or low-income populations, nor would they be expected to be significant. When combined with the impacts of other projects, the Proposed Action would result in short-term, beneficial cumulative effects on the local economy. Construction expenditures would only be temporary in nature. There might also be possible cumulative adverse effects on the local minority, low-income, and Hispanic or Latino populations, though impacts would not be disproportionately adverse. None of these cumulative socioeconomic effects would be significant.

## 5.2. Unavoidable Adverse Effects

Unavoidable adverse effects would result from implementation of the Proposed Action. None of these impacts would be significant.

**Air Quality.** Implementation of the Proposed Action would result in temporary particulate emissions due to the short-term operation of heavy machinery during tree felling or trimming. Although unavoidable, the results of the impact analysis indicate effects would not be significant.

**Geological Resources.** Under the Proposed Action, the operation of heavy equipment would result in some minor soil disturbance. Informed site selection for the staging of vehicles and equipment prior to and during tree maintenance activities would also reduce potential environmental effects related to these characteristics. Although unavoidable, effects on soils would not be considered significant.

**Infrastructure.** Vegetative waste would be generated as a result of tree management activities. This is an unavoidable, but minor, adverse effect that can be mitigated to a certain extent by possible recycling and repurposing opportunities. Minor, adverse traffic effects would be expected as a result of the Proposed Action. These effects would be the unavoidable consequences of implementing the Proposed Action, but are not considered significant.

**Hazardous Materials and Wastes.** The use of POL materials and pesticides would be unavoidable conditions associated with the Proposed Action. Contractors would be responsible for the management of these materials, which would be handled in accordance with Federal and state regulations. The potential for accidents or spills due to improper fuel handling is an unavoidable risk associated with the Proposed Action.

## 5.3. Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

The proposed tree maintenance activities would comply with Federal Aviation Regulation Part 77 and Unified Facilities Criteria 3-260-01, which limits vertical obstructions into imaginary surfaces, and the Official Code of Cobb County, which calls for the management of natural growth within areas surrounding the Dobbins ARB airfield.

## 5.4. Relationship between the Short-term Use of the Environment and Long-term Productivity

Short-term uses of the biophysical components of the human environment include direct, construction-related disturbances and direct effects associated with an increase in population and activity that occurs over a period of less than 5 years. Long-term uses of the human environment include those effects occurring over a period of more than 5 years, including permanent resource loss.

This EA identifies potential short-term, adverse effects on the natural environment as a result of operating heavy equipment for the mechanical felling and trimming of trees. These potential adverse effects include noise emissions, air emissions, soil compaction, soil erosion, storm water runoff into surface water, and increased traffic. Proposed tree maintenance would result in the permanent removal of vegetation and wildlife habitat, which is an adverse effect, but the removal of obstacles from the airfield imaginary surfaces would enhance airfield safety for those on Dobbins ARB and in the surrounding Cobb

County and City of Marietta. The Proposed Action would not result in intensifications of land use at Dobbins ARB or the surrounding areas.

## **5.5. Irreversible and Irretrievable Commitments of Resources**

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that use of these resources would have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from implementation of the Proposed Action involve the loss of biological habitat and consumption of material resources used for construction, energy resources, land, landfill space, and human labor resources. The use of these resources is considered to be permanent.

**Energy Resources.** Energy resources used for the Proposed Action would be irretrievably lost. These include gasoline and diesel fuel for the operation of construction vehicles. Consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, no significant effects would be expected.

**Biological Habitat.** The Proposed Action would result in the irreversible loss of vegetation and wildlife habitat. The loss would be not considered significant on a regional basis.

## 6. LIST OF PREPARERS

This EA has been prepared by HDR and Stell Environmental Enterprises under the direction of AFRC and the 94th Airlift Wing at Dobbins ARB. The individuals who contributed to the preparation of this document are listed as follows.

**Amy Altimare**

M.E.M. Masters of Environmental  
Management  
B.S. Environmental Science  
Years of Experience: 17

**Louise Baxter**

M.P.A. Public Administration  
B.S. Political Science  
Years of Experience: 22

**Ryan Delaney**

M.S. Environmental Science  
B.A. International Relations and English  
Literature  
Years of Experience: 2

**Nicolas Frederick**

M.S. Biology  
B.S. Psychology  
Years of Experience: 4

**Stuart Gottlieb**

B.A. Geography  
GIS Professional Certificate  
Years of Experience: 10

**Leigh Hagan**

MESM Environmental Science and  
Management  
B.S. Biology  
Years of Experience: 9

**Cheryl Myers**

A.A.S. Nursing  
Years of Experience: 23

**Steven Peluso, CHMM, CPEA**

B.S. Chemical Engineering  
Years of Experience: 26

**Tanya Perry**

B.S. Environmental Science  
B.A. Communications  
Years of Experience: 13

**Bruce Ramo**

B.A. Urban Planning  
Years of Experience: 37

**Michael Robertson**

M.A. Environmental Planning Studies  
B.S. Crop and Soil Environmental Science  
Years of Experience: 10

**Patrick Solomon**

M.S. Geography  
B.S. Geography  
Years of Experience: 19

**Matt Valdin**

M.E.S.M. in Environmental Management  
B.A. Environmental Science  
Years of Experience: 1

**Jeffrey Weiler**

M.S. Resource Economics/Environmental  
Management  
B.A. Political Science  
Years of Experience: 38

**Melissa Wiedenfeld, Ph.D.**

Ph.D. History  
M.A. History  
B.A. History  
Years of Experience: 27

**Caroline Wright**

M.A. Architecture  
B.A. Architecture  
Years of Experience: 3

**Mary Young**

B.S. Environmental Science  
Years of Experience: 10

***THIS PAGE INTENTIONALLY LEFT BLANK***



## 7. REFERENCES

- Bureau of Labor Statistics 2011 Bureau of Labor Statistics. 2011. Local Area Unemployment Statistics. Available online: <<http://www.bls.gov/lau/#tables>>. Accessed 22 December 2011.
- CCGACO 2012 Cobb County GA Code Ordinances (CCGACO). 2012. Code of Ordinances, Part 1-Chapter 50-Article VII-Noise. Available online: <<http://library.municode.com/showDocument.aspx?clientID=10572&docID=0>>. 19 January 2012.
- CCMWA 2013 Cobb County-Marietta Water Authority (CCMWA). 2013. Facilities. Available online: <<http://www.ccmwa.org/system/facilities.html>>. Accessed 31 May 2013.
- CEQ 1997 Council on Environmental Quality (CEQ). 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. January 1997.
- CFRGA 2012 Electronic Code of Federal Regulations, Georgia (CFRGA). 2012. Title 40 - Protection of Environment; Part 81 – Designation of Areas for Air Quality Planning Purposes; Subpart C, Section 107 – Attainment Status Designations; §81.311 Georgia. Available online: <<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=bd1bc174588b995f15b5b3f1cd7f>>. 15 January 2012.
- CFRMAIAQCR 2012 Electronic Code of Federal Regulations, Metro Atlanta Intrastate Air Quality Control Region (CFRMAIAQCR). 2012. Title 40 - Protection of Environment; Part 81 – Designation of Areas for Air Quality Planning Purposes; Subpart B – Designation of Air Quality Control Regions; §81.45 – Metropolitan Atlanta Intrastate Air Quality Control Region. Available online: <<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=bd1bc174588b995f15b5b3f1cd7f>>. Accessed 15 January 2012.
- City of Marietta undated City of Marietta. Undated. The City of Marietta Comprehensive Plan 2006–2030.
- City of Marietta 2013a City of Marietta. 2013. City of Marietta Map of National Historical Districts. Available online: <<http://www.mariettaga.gov/City/media/Docs/Planzone/historicdistricts.pdf>> Accessed 25 March 2013.
- City of Marietta 2013b City of Marietta. 2013. “2011 Transportation Enhancement Grant Projects.” Available online: <<http://www.mariettaga.gov/city/cityhall/engineering/2011-transportation>>. Accessed 8 March 2013.
- Cobb County 2010 Cobb County. 2010. Cobb County 2030 Comprehensive Plan: Community Agenda. Adopted 23 July 2007. Revised 9 February 2010.
- Cobb County 2011 Cobb County. 2011. “Cobb County Trail System Directory.” Dated 17 March 2011. Available online: <[http://portal.cobbcountyga.gov/index.php?option=com\\_content&view=article&id=498&Itemid](http://portal.cobbcountyga.gov/index.php?option=com_content&view=article&id=498&Itemid)>. Accessed 8 March 2013.
- Cobb County 2013a Cobb County. 2013. Proposed Amendments: Official Code of Cobb County. Chapters 2, 6, 30, 34, 50, 54, 62, 90, 122, and 134. 12 February 2013.

Cobb County 2013b	Cobb County. 2013. Cobb County Government Homepage. Available online < <a href="http://portal.cobbcountyga.gov/">http://portal.cobbcountyga.gov/</a> >. Accessed 11 April 2013.
Connaughton 2005	Connaughton, James. 2005. Guidance on the Consideration of Past Actions in Cumulative Effects Analysis. Memorandum from James Connaughton (Chairman, Council on Environmental Quality) to Heads of Federal Agencies. 24 June 2005.
Dobbins ARB 1999	Dobbins Air Reserve Base (ARB). 1999. <i>Final EA/FONSI for the Environmental Assessment of the Conversion of the 700th Airlift Squadron at Dobbins Air Reserve Base, Georgia</i> . September 1999.
Dobbins ARB 2007	Dobbins ARB. 2007. Forest Management Plan, FY 2007 – FY 2011 for Dobbins Air Reserve Base, Georgia. Prepared for: 94th Combat Support Group, Environmental Flight, 94 SPTG/CEV, Dobbins ARB, GA and Headquarters Air Force Reserve Command, Environmental Division, AFRC/CEV, Robins AFB, GA. Prepared by: H. Warner Spence, District Forester Forest Resources Office, CESAS-RE-RT, Savannah, GA.
Dobbins ARB 2008	Dobbins ARB. 2008. Spill Prevention, Control, and Countermeasure Plan. August 2008.
Dobbins ARB 2009	Dobbins ARB. 2009. Wetland Delineation and Stream Evaluation Report. September 2009.
Dobbins ARB 2010a	Dobbins ARB. 2010. Final General Plan. HQ AFCEE Contract No. FA8903-08-D-8769, Task Order 0180. Prepared by CH2MHILL, Atlanta, Georgia. June 2010.
Dobbins ARB 2010b	Dobbins ARB. 2010. <i>Environmental Baseline Survey Update for Air Force Plant 6, Marietta, Georgia</i> . May 2010.
Dobbins ARB 2011a	Dobbins ARB. 2011. Final 2009 Air Emissions Inventory Report. January 2011.
Dobbins ARB 2011b	Dobbins ARB. 2011. AICUZ Study for Dobbins ARB. October 2011.
Dobbins ARB 2011c	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Purchase AICUZ Clear Zones, Project Number FGWB 93-9010. July 2011.
Dobbins ARB 2011d	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Construct Storm Water Retention Sys at Standpipe Adjacent to Runway 29 Overrun, Project Number FGWB119003. May 2011.
Dobbins ARB 2011e	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Maintain Airfield Storm Water System Phase 1, Project Number FGWB0400141A. 20 May 2011.
Dobbins ARB 2011f	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Repair Airfield Stormwater System Phase 1, Project Number FGWB0400141B. 20 May 2011.

Dobbins ARB 2011g	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Maintain Airfield Storm Water System Phase II, Project Number FGWB0400142A. 20 May 2011.
Dobbins ARB 2011h	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Repair Airfield Stormwater System Phase II, Project Number FGWB0400142B. 20 May 2011.
Dobbins ARB 2011i	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Construct Airfield Storm Water Sys at Pond 6 and Yellow Freight Trucking Phase II, Project Number FGWB0400142C. 20 May 2011.
Dobbins ARB 2011j	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Addition to Base Contracting/Base Supply Facility, Building 812, FGWB 09-9006. July 2011.
Dobbins ARB 2011k	Dobbins ARB. 2011. FY 2014 Military Construction Project Data: Construct 2nd Floor Addition, Building 747, Project Number FGWB 08-0027. July 2011.
Dobbins ARB 2011m	Dobbins ARB. 2011. Lockheed Martin Aeronautics Material Recycling Facility: Option 1, Facility Layout. 3 August 2011.
Dobbins ARB 2012a	Dobbins ARB. 2012. Fiscal Year 2012 Dobbins ARB Unit Profile. 2012.
Dobbins ARB 2012b	Dobbins ARB. 2012. <i>Tree Management Plan to Manage Tree Obstructions at Dobbins ARB</i> . 22 February 2012.
Dobbins ARB 2012c	Dobbins ARB. 2012. Final Integrated Natural Resources Management Plan (INRMP) for Dobbins ARB, Georgia. August 2012.
Dobbins ARB 2012d	Dobbins ARB. 2012. Final Environmental Assessment Addressing a Proposed Commissary at Dobbins Air Reserve Base, Georgia. November 2012.
Dobbins ARB 2012e	Dobbins ARB. 2012. <i>Final Environmental Baseline Survey for the Barclay Gate Site Proposed For A Commissary at Dobbins Air Reserve Base, Georgia</i> . Prepared for Dobbins Air Reserve Base and Air Force Reserve Command. February 2012.
Dobbins ARB 2012f	Dobbins ARB. 2012. Final Integrated Cultural Resource Management Plan (ICRMP), Fiscal Years 2012-2016. November 2012.
Dobbins ARB 2012g	Dobbins ARB. 2012. Five-Year Review Sites at Dobbins Air Reserve Base. December 2012.
DOE/EIA 2011	U.S. Department of Energy, Energy Information Administration (DOE/EIA). 2011. "Table 1. State Emissions by Year (Million Metric Tons of Carbon Dioxide)." Available online: < <a href="http://www.eia.gov/environment/emissions/state/state_emissions.cfm">http://www.eia.gov/environment/emissions/state/state_emissions.cfm</a> >. Data Released October 2011. Data accessed 31 March 2013.
FEMA 1986	Federal Emergency Management Agency (FEMA). 1986. A Unified National Program for Floodplain Management. Interagency Task Force on Floodplain Management. FEMA 100. March 1986.

- FEMA 2013 FEMA. 2013. Flood Rate Insurance Maps. Available online:  
<[https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=firnetteHelp\\_A&title=FIRMettes](https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=firnetteHelp_A&title=FIRMettes)>. Accessed 2 April 2013.
- FICON 1992 Federal Interagency Committee on Noise (FICON). 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- GADNR 2013 Georgia Department of Natural Resources (GADNR). 2013. Georgia Rare Species and Natural Community Data. Available online:  
<<http://www.georgiawildlife.com/node/1370>>. Accessed 11 April 2013.
- GANahr 2007 Georgia's Natural, Archaeological, and Historic Resources GIS (GANahr). 2007. Survey of 244 Walthall Avenue, Marietta. 29 May 2007. Available online:  
<<https://www.gnahrgis.org/gnahrgis/histreport.do?rid=206513>>. Accessed 25 March 2013.
- MGACO 2012 Marietta GA Code Ordinances (MGACO), City of. 2012. Code of Ordinances, Part 10-Chapter 10-6-Noise. Available online:  
<<http://library.municode.com/showDocument.aspx?clientID=12224&docID=0>>. 19 January 2012.
- NAAQS 2011 National Ambient Air Quality Standards (NAAQS). 2011. Air and Radiation, US EPA. Last update: 11/8/2011. Available online:  
<<http://www.epa.gov/air/criteria.html>>. 15 January 2012.
- NRCS 1993 Natural Resources Conservation Service (NRCS). 1993. Soil Survey Manual. United States Department of Agriculture, Soil Survey Division. Chapter Three: Examination and Description of Soils. Available online:  
<<http://soils.usda.gov/technical/manual/contents/chapter3.html>>. Accessed online: 10 April 2013.
- NatureServe 2013 NatureServe. 2013. NatureServe Explorer Species Search. Available online:  
<<http://www.natureserve.org/explorer/index.htm>>. Accessed 11 April 2013.
- NCAPL 2010 N.C. Association of Professional Loggers (NCAPL). 2010. Logger Safety Checklist Booklet. Revised 2010.
- RAQC undated Rules for Air Quality Control (RAQC). Undated. Chapter 391-3-1, Rule .02 Provisions, Pgs 138-140.
- Rickard 2013 Rickard, James. 2013. Email correspondence between James Rickard (USFWS) and Mark Floyd (Dobbins ARB) regarding characteristics of Indiana Bat in Georgia. 2 May 2013.
- SGACEG 2008 SP6 GA County Emissions Grid (SGACEG). 2008.
- State of Georgia 2011 State of Georgia. 2011. "Official Code of Georgia." Available online:  
<<http://www.lexisnexis.com/hottopics/gacode/>>. Accessed 31 March 2013.

- UEHPG 2011 USGS Earthquake Hazards Program Georgia (UEHPG). 2011. Seismic Hazard Map. <http://earthquake.usgs.gov/earthquakes/states/georgia/hazards.php>. 28 December 2011.
- U.S. Census Bureau 2010 U.S. Census Bureau. 2010. "USA QuickFacts." Available online: <http://quickfacts.census.gov/qfd/states/00000.htm>. Accessed 22 December 2011.
- U.S. Census Bureau 2011 U.S. Census Bureau. 2011. American Fact Finder Data for the 2010 Census. Available online: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed 30 March 2012.
- USEPA 1971 U.S. Environmental Protection Agency (USEPA). 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. 31 December 1971.
- USEPA 1974 USEPA. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Prepared by: USEPA Office of Noise Abatement and Control. March 1974.
- USEPA 1980 USEPA. 1980. Effects of Noise on Wildlife and Other Animals. Review of Research since 1971. July 1980.
- USEPA 1981a USEPA. 1981. "Noise and its Measurement." January 1981. Available online: <http://nonoise.org/epa/Roll19/roll19doc49.pdf>. Accessed 3 March 2010.
- USEPA 1981b USEPA. 1981. "Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise." Office of Noise Abatement and Control. October 1979, Revised July 1981. Available online: <http://nonoise.org/epa/Roll7/roll7doc27.pdf>. Accessed 3 March 2010.
- USEPA 2011 USEPA. 2011. Mandatory Class I Areas. Available online: [http://www.epa.gov/ttn/oarpg/t1/fr\\_notices/classimp.gif](http://www.epa.gov/ttn/oarpg/t1/fr_notices/classimp.gif). Accessed 31 March 2013.
- USEPAOW 1999 USEPA Office of Water (USEPAOW). 1999. Storm Water Technology Fact Sheet Vegetate Swales. 832-F-00-006. September 1999.
- USFWS 2007 U.S. Fish and Wildlife Service (USFWS). 2007. Designation of Critical Habitat for Five Endangered and Two Threatened Mussels in Fourth Northeast Gulf of Mexico Drainages. 72 FR 220. 15 November 2007.
- USFWS 2013 USFWS. 2013. Species by County Report: Cobb County. Available online: [http://ecos.fws.gov/tess\\_public/countySearch!speciesByCountyReport.action?fips=13067](http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=13067). Accessed 30 March 2013.

***THIS PAGE INTENTIONALLY LEFT BLANK***

## **APPENDIX A**

**INTERAGENCY AND INTERGOVERNMENTAL COORDINATION  
FOR ENVIRONMENTAL PLANNING, NATIVE AMERICAN TRIBAL CONSULTATION,  
AND PUBLIC INVOLVEMENT CORRESPONDENCE**







## DEPARTMENT OF THE AIR FORCE

### AIR FORCE RESERVE

08 April 2013

#### MEMORANDUM FOR DISTRIBUTION

FROM: 94 MSG/CE  
884 Industrial Drive  
Dobbins ARB, Georgia 30069

SUBJECT: Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) For an Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia.

1. The Air Force Reserve Command (AFRC) is proposing to manage tree obstructions to preserve flight safety at Dobbins Air Reserve Base (ARB). Dobbins ARB is in Cobb County in northwestern Georgia, about 16 miles northwest of the City of Atlanta. The U.S. Air Force (USAF) mission requires that airfield obstructions and supporting data are identified and a current inventory is maintained. To identify natural obstructions around Dobbins ARB, a Tree Management Plan to Manage Tree Obstructions at Dobbins ARB was completed in 2012. This plan updated the airfield obstruction data and mapping products in support of airfield operations. At Dobbins ARB, trees have grown to a height that adversely affects safe airfield operations and flight safety. Many of the trees requiring management are located on private property surrounding the installation; other trees are on Dobbins ARB property. To manage tree obstructions, land access agreements or enforcement of county zoning ordinances could be required.

2. The purpose of the Proposed Action is to manage tree obstructions at Dobbins ARB that violate Federal Aviation Regulation Part 77 and United Facilities Criteria 3-260-1. The need for the Proposed Action is to preserve flight safety at Dobbins ARB and ensure the installation's continued ability to operate aircraft. Height obstructions can compromise the ability of aircraft to land safely, particularly in adverse weather conditions or during military training operations. As a result, the welfare of populations on and adjacent to the installation could be negatively impacted if the tree obstructions are not managed.

3. At Dobbins ARB, some of the trees have grown to a height that adversely affects safe airfield operations and flight safety at the airfield. As a result, tree management zones were established from the data identified in the Tree Management Plan and will be evaluated in the Environmental Assessment (EA), as show in Figure 1. Tree management on Dobbins ARB property would occur within 46 acres along the north and south sides of the runway. The Approach Zone on the

West End includes 36.2 acres outside of DOD property west of Runway 11. It is bounded by Dobbins ARB property on the east side; the west boundary is adjacent to South Cobb Drive. This area consists primarily of private residential property with commercial property along Atlanta Road. The Approach Zone on the East End includes 20.6 acres outside of DOD property east of Runway 29. This area consists primarily of commercial property with some residential developments along Terrell Mill Road. The Transitional Zone on the West Approach is outside of DOD property, generally north and south of the Approach Zone on the West End. The Transitional Zone on the East Approach is outside of DOD property, generally north and south of the Approach Zone on the East End.

4. Under the No Action Alternative, Dobbins ARB would not manage trees that are considered obstructions to air navigation. Height obstructions could compromise the ability of aircraft to operate safely, particularly in adverse weather conditions or during military training operations. Consequently, the welfare of populations on and adjacent to the installation could be impacted. Moreover, the installation's ability to operate aircraft could be impacted. As a result, the installation may be unable to fulfill their mission.

5. The EA will be prepared to evaluate the Proposed Action and the No Action Alternative. Resources that will be considered in the impacts analysis are noise, land use, air quality, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, infrastructure, hazardous materials and waste management, and safety.

6. In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing this letter and solicit your comments concerning the proposal and any potential environmental issues of concern to you. We request that you send comments or information you would like considered during preparation of the Draft EA directly to the undersigned at 884 Industrial Drive, Dobbins ARB, Georgia, 30069 within 30 days from the date of this letter. In addition, please indicate if you are interested in receiving a copy of the Draft EA, once it is available, or if someone else within your organization other than you should receive the Draft EA. Attachment 2 of this letter provides a list of other contacted stakeholders. Your prompt attention to this request would be greatly appreciated. If members of your staff have any questions, please contact my point of contact, Mr. Mark Floyd at (678) 655-3549.

  
KENNETH W. WILLIAMS  
Base Civil Engineer

Attachments:

1. Figure 1. Tree Management Zones
2. IICEP Distribution List

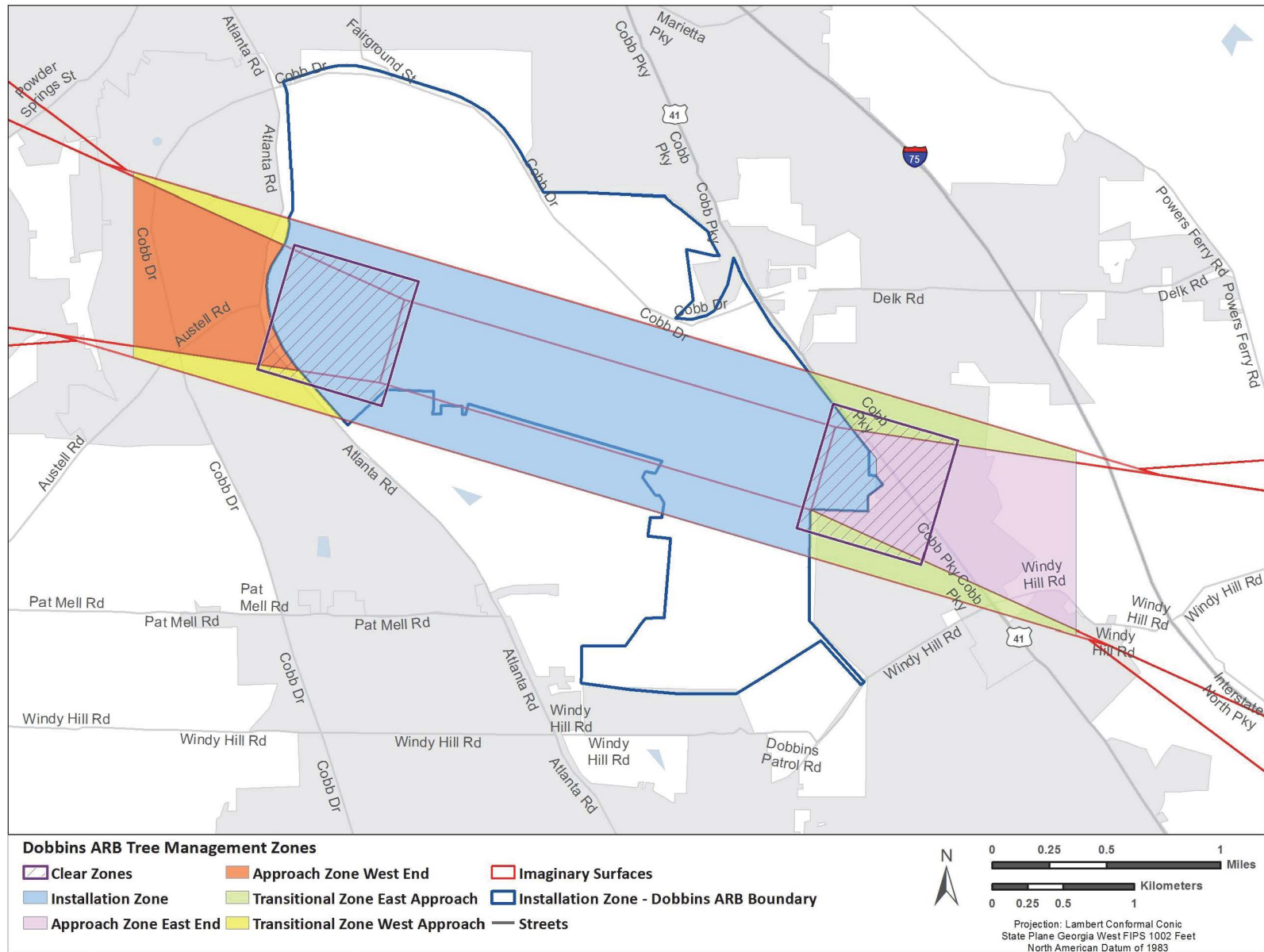


Figure 1. Tree Management Zones

## Attachment 2

### IICEP Distribution List

Ms. Gwendolyn Keyes Fleming  
U.S. Environmental Protection Agency,  
Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303

U.S. Fish and Wildlife Service  
Southeast Region, Region 4  
1875 Century Blvd., Suite 200  
Atlanta, GA 30345

Jimmy Rickard  
U.S. Fish and Wildlife Service  
105 West Park Drive, Suite D  
Atlanta, GA 30606

Terry Johnson, AJR-01  
FAA/AFREP Office  
P.O. Box 20636  
Atlanta, GA 30320

U.S. Army Engineer Division, South Atlantic  
60 Forsyth Street SW, Room 9M15  
Atlanta, GA 30303-8801

Georgia Environmental Protection Division  
Georgia Department of Natural Resources  
2 Martin Luther King Jr. Drive  
Suite 1152, East Tower  
Atlanta, GA 30334

Georgia State Parks and Historic Sites  
Georgia Department of Natural Resources  
2 Martin Luther King Jr. Drive  
Suite 1352, East Tower  
Atlanta, GA 30334

Historic Preservation Division  
Georgia Department of Natural Resources  
254 Washington Street SW; Ground Level  
Atlanta, GA 30334

Mr. Dana Johnson  
Cobb County Community Development  
Department  
P.O. Box 649  
Marietta, GA 30061

Cobb Chamber of Commerce  
P.O. Box 671868  
Marietta, GA 30006-0032

Mr. Tim Lee  
Cobb County Commission Chairman  
100 Cherokee Street  
Marietta, GA 30090

Mr. David Hankerson  
Cobb County Manager  
100 Cherokee Street  
Marietta, GA 30090

Mr. Rob Hosack, AICP  
Director, Cobb County Community  
Development Department  
P.O. Box 649  
Marietta, GA 30061

Cobb County Soil and Water Conservation  
District  
678 South Cobb Drive, Suite 150  
Marietta, GA 30060

Faye DiMassimo  
Cobb County Department of Transportation  
1890 County Services Parkway  
Marietta, GA 30008

Mr. Rusty Roth  
City of Marietta Department of Planning and  
Zoning  
205 Lawrence Street  
Marietta, GA 30060

Ms. Kyethea Clark  
City of Marietta Department of Planning and  
Zoning  
205 Lawrence Street  
Marietta, GA 30060

Mr. William Bruton, Jr.  
Marietta City Manager  
205 Lawrence Street  
Marietta, GA 30060

Mr. Rich Buss  
Marietta City Hall, Parks and Recreation  
205 Lawrence Street  
Marietta, GA 30060

City of Smyrna  
2800 King Street  
Smyrna, GA 30080

Atlanta Regional Commission  
40 Courtland Street, NE  
Atlanta, GA 30303-2538

Alabama-Quassarte Tribal Town  
117 North Main  
Wetumka, OK 74883

Catawba Indian Nation  
996 Avenue of the Nations  
Rock Hill, SC 29730

Cherokee Nation  
22361 Bald Hill Road  
Tahlequah, OK 74464

Eastern Band of Cherokee Indians  
P.O. Box 455  
Cherokee, NC 28719

Poarch Band of Creek Indians  
5811 Jack Springs Road  
Atmore, AL 36502





COBB COUNTY  
BOARD OF COMMISSIONERS

100 Cherokee Street, Suite 300  
Marietta, Georgia 30090-7000  
770-528-3305 • fax: 770-528-2606  
tlee@cobbcounty.org

Timothy D. Lee  
Chairman

May 13, 2013

Mr. Kenneth W. Williams  
884 Industrial Drive  
Dobbins ARB, Georgia, 30069

Re: Environmental Assessment for Tree Management at Dobbins Air Reserve Base

Dear Mr. Williams:

Thank you for the opportunity for Cobb County to comment on the proposal presented in your memorandum dated April 8, 2013. As always, leadership at Cobb County greatly values the cooperative spirit and partnership that exists between Dobbins ARB and the Cobb County community. As such, I send you this correspondence in full support of your efforts to properly manage the tree canopy in and around Dobbins ARB to ensure the safety of military personnel and the citizens and businesses of Cobb County.

Ensuring that Dobbins ARB is able to continually operate aircraft is a core mission of the base and we understand that any compromise to this may negatively impact the base's ability to conduct military training operations. Thus, we support your efforts to manage the tree canopy to ensure that obstructions are managed appropriately.

If you have any additional questions, please do not hesitate to contact me or any of the staff members that had received your April 8<sup>th</sup> memorandum. We ask that you please include this as part of the official record as required by Executive Order 12372, Intergovernmental Review of Federal Programs.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tim Lee", is written over a light blue horizontal line.

Tim Lee, Chairman  
Cobb County Board of Commissioners

cc: David Hankerson, County Manager  
Rob Hosack, AICP, Director  
Faye DiMassimo, Director  
Dana Johnson, Manager

Equal Opportunity Employer

Cobb County...Expect the Best!  
[www.cobbcounty.org](http://www.cobbcounty.org)



**From:** [FLOYD, MARK D GS-11 USAF AFRC 94 MSG/CEV](#)  
**To:** [Frederick, Nicolas](#)  
**Cc:** [Perry, Tanya G](#)  
**Subject:** FW: IICEP For an Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia.  
**Date:** Tuesday, May 14, 2013 12:48:41 PM

---

FYI. IICEP response from EPA Region 4.

//SIGNED//

Mark D. Floyd, GS-11, DAF  
Dobbins ARB Conservation Program Manager  
DSN 625.3549 Comm 678.655.3549

---

**From:** WILLIAMS, KENNETH W GS-13 USAF AFRC 94 MSG/CE  
**Sent:** Monday, May 13, 2013 10:46 AM  
**To:** WHITE, ERNEST L GS-12 USAF AFRC 94 MSG/CEV; FLOYD, MARK D GS-11 USAF AFRC 94 MSG/CEV  
**Subject:** FW: IICEP For an Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia.

FYI

---

**From:** Gissentanna, Larry [<mailto:Gissentanna.Larry@epa.gov>]  
**Sent:** Monday, May 13, 2013 10:39 AM  
**To:** WILLIAMS, KENNETH W GS-13 USAF AFRC 94 MSG/CE  
**Cc:** Mueller, Heinz  
**Subject:** IICEP For an Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia.

94 MSG/CE  
884 Industrial Drive  
Dobbins ARB, Georgia 30069

RE: IICEP For an Environmental Assessment Addressing Tree Management at Dobbins Air Reserve Base, Georgia.

Dear Mr. Kenneth Williams:

EPA Region 4, NEPA Program has reviewed the Interagency and Intergovernmental Coordination (IICEP), for an Environmental Assessment addressing tree management at Dobbins Air Reserve Base, Georgia) pursuant to the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

This IICEP describes the Proposed Actions as a result of the Tree Management Plan (TMP) that was completed in 2012. This TMP identified natural obstruction around Dobbins ARB that violate Federal Aviation Regulation Part 77 and the United Facilities Criteria 3-260-1. The proposed action is to remove trees that pose a height obstruction that can compromise flight safety.

Based on the information you provided in the IICEP, we believe the proposed action (Environmental Assessment) to remove and manage obstructions surrounding the installation do not appear to represent a significant impact to human health and the environment, however additional comments may be necessary after reviewing the Draft Environmental Assessment.

Thank you for the opportunity to review this IICEP memo. Please forward an electronic copy of the Draft EA / FONSI to this office. If you have any questions, you may contact me via the information below.

Larry O. Gissentanna  
DoD and Federal Facilities, Project Manager

U.S. Environmental Protection Agency/ Region 4  
National Environmental Policy Act (NEPA) Program Office  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960  
Office: 404-562-8248  
[gissentanna.larry@epa.gov](mailto:gissentanna.larry@epa.gov)

**From:** [Rickard, James](#)  
**To:** [FLOYD, MARK D GS-11 USAF AFRC 94 MSG/CEV](#)  
**Cc:** [Frederick, Nicolas](#); [Perry, Tanva G](#); [Ramo, Bruce H](#); [Pete Pattavina](#); [Robin Goodloe](#)  
**Subject:** Re: USFWS Indiana Bat ES issues (12-X007 High Priority Tree Removal EA)  
**Date:** Thursday, May 02, 2013 9:50:51 AM  
**Attachments:** [Proposed Standards 4 22 13.docx](#)

---

Thanks Mark

For most small scale projects it should be easy to avoid impacts to the Indiana bat by selecting an appropriated season for that work. Very briefly this is the best information that we have at this point but our understanding of this species is evolving. Here is what we think we know:

We don't have any known hibernacula in Georgia, however, we now know that Indiana bats are moving south from their hibernacula to roosts in and around Georgia. North Georgia is on the edge of this species range, likely with a very low density of bats per acre and we are just starting to learn about their ecology in this state. In general, females seem to disperse farther than males, presumably to get away from males while they establish their maternity colony. Maternity colonies are particularly vulnerable to disturbance while the pups are non-volant (not flying) May 1 to August 15. Indiana bats prefer to establish maternity colonies in the dead snags of southern yellow pines (loblolly, shortleaf, longleaf, pitch, table mountain); snags that have peeling bark that provides shelter are used, generally with 20-40% of the bark remaining on the tree; mature (greater than 8 inches dbh) or preferred formally dominate trees; snags in a canopy gaps, on south facing slopes, allowing high solar exposure; between 280 meters elevation and 700 meters also seem to be preferred. However, males, non-reproductive females and volant pups may use much wider variety of snags or even trees with peeling bark (shagbark hickory) and can potentially use almost any forested habitat.

If you can conduct your work while the species is in hibernation (Oct thru March), then there should be no impact. Also, if you can demonstrate that your habitat is not suitable or low quality then we can assume no impacts. In Georgia it is most important to have protective measures that protect potential maternity colonies. Attached is the draft guidelines that we are developing for the Forest Service, however, they are a different than you because they are operating on a scale that can not avoid impacts. I am not suggesting that you do or do not adopt these standards, just sharing the ideas that we are thinking about on other projects. At this point in our understanding of this species we are open to and seeking new ideas.

The Service is currently evaluating the status of several bats and it is likely that future projects will have to consider impacts to Northern long-eared bats and possibly the small-footed bat.

On Wed, May 1, 2013 at 2:01 PM, FLOYD, MARK D GS-11 USAF AFRC 94 MSG/CEV <[mark.floyd@us.af.mil](mailto:mark.floyd@us.af.mil)> wrote:

Jimmy,

Thanks for the phone call. Please send me your contact info. We will add your name to the EA distribution list. Based on our phone conversation, I want to ensure the USFWS Indiana Bat issues are addressed in the EA.

Thx, Mark

//SIGNED//

Mark D. Floyd, GS-11, DAF

Dobbins ARB Conservation Program Manager

DSN 625.3549 Comm 678.655.3549

--

Jimmy Rickard  
Fish & Wildlife Biologist  
U.S. Fish & Wildlife Service  
West Park Center  
105 West Park Drive, Suite D  
Athens, GA 30606  
(706) 613-9493 x 223  
FAX (706) 613-6059



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS  
COMMISSIONER

DR. DAVID CRASS  
DIVISION DIRECTOR

MEMORANDUM

TO: Tanya Perry  
EA Project Manager  
HDR Environmental, Operations, Construction, Inc.  
2600 Park Tower Drive, Suite 100  
Vienna, Virginia 22180-7342

FROM: Elizabeth Shirk *ECS*  
Environmental Review Coordinator  
Historic Preservation Division

RE: Finding of "No Historic Properties Affected"

PROJECT: Dobbins ARB: EA for Tree Obstruction Management Plan  
Federal Agency: AF  
HP-130412-002

COUNTY: Cobb

DATE: August 13, 2013

The Historic Preservation Division (HPD) has reviewed the information received concerning the above-referenced project. Our comments are offered to assist federal agencies and their project applicants in complying with the provisions of Section 106 of the National Historic Preservation Act, as amended.

Based on the information submitted, HPD has determined that no historic properties or archaeological resources that are listed on or eligible for listing on the National Register of Historic Places will be affected by this undertaking. Please note that historic and/or archaeological resources may be located within the project's area of potential effect (APE). However, at this time it has been determined that they will not be impacted by the above-referenced project. Furthermore, any changes to this project as proposed will require further review by our office for compliance with Section 106.

If we may be of further assistance, please do not hesitate to contact me at (404) 651-6624. Please refer to the project number assigned above in any future correspondence regarding this project.

ES:jad

cc: Allison Duncan, Atlanta Regional Commission  
Michael Robertson, HDR  
94<sup>th</sup> Airlift Wing Public Affairs Office

254 WASHINGTON STREET, SW | GROUND LEVEL | ATLANTA, GEORGIA 30334  
404.656.2840 | FAX 404.657.1368 | WWW.GEORGIAHPO.ORG

**Main Office**

580 Fairground Street  
Post Office Box 449  
Marietta, Georgia 30061  
Phone: 770.428.9411  
Fax: 770.428.5375

**Cobb County**

Marietta Daily Journal  
Cobb Life Magazine  
East Cobb Neighbor  
North Cobb Neighbor  
South Cobb Neighbor  
Smyrna Neighbor  
Vinnings Neighbor

**Cherokee County**

Cherokee Tribune  
Cherokee Life Magazine  
Cherokee Tribune Plus

**Bartow County**

Bartow Neighbor

**Douglas County**

Douglas Neighbor

**Paulding County**

Paulding Neighbor

**Fulton County**

Northside Neighbor  
Sandy Springs Neighbor  
Sandy Springs Life Magazine  
Roswell Neighbor  
Johns Creek Neighbor  
Milton Neighbor  
Alpharetta Neighbor  
South Fulton Neighbor

**Fayette County**

Fayette Neighbor

**Henry County**

Henry Neighbor

**Clayton County**

Clayton Neighbor

**DeKalb County**

Dunwoody Neighbor  
Dunwoody Life Magazine  
North DeKalb Neighbor  
Mid DeKalb Neighbor

Proudly Serving  
Suburban Atlanta

Ten Counties

Over 400,000  
Audited Circulation

## AFFIDAVIT OF PUBLICATION

I, Wade Stephens do solemnly swear that I am

Vice President of the Marietta Daily Journal,

Cherokee Tribune, and Neighbor Newspapers, printed

and published at Marietta in the State of Georgia and that

from my own personal knowledge and reference to the files

of said publication, the advertisements for:

**"Notice of Open House to Discuss Tree Management  
on 7-31-2013 for Dobbins Air Reserve Base",**

was published in the: Marietta Daily Journal, Page 5A

On Saturday, July 20th and Marietta Daily Journal, Page 8B

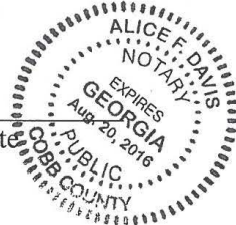
On Sunday, July 21st of the year 2013

Wade Stephens

Subscribed and sworn to before 24th day of JULY, 2013.

[Signature]  
Notary Public

Expiration Date





## Shots

Continued from Page 1A

chickenpox immunizations, a booster shot for pertussis and polio, and dental, vision and hearing tests.

Rising sixth-grade students are required to have the same shots and screenings before the start of the school year, plus the meningitis and human papillomavirus vaccines.

It is also recommended that high school and college students get a meningitis vaccine.

Patients with no health insurance or those who have insurance but it does not cover vaccines are charged an administration fee of \$21.50 per vaccine. Costs vary at private practices.

Dr. Amy Cooper, a pediatrician with Webster Physician Group's Pediatrics at East Cobb (off Kowalew Road), said it's important for students to get their vaccines because it not only reduces the chance of a child getting sick, but also the possibility of an outbreak in a school or community.

"Distress spread most by those who are not immunized," she said.

According to the most recent data from the Centers for Disease Control, around 95 percent of students starting kindergarten in 2011 were properly vaccinated on the national level and Georgia records were slightly above that figure, coming in at about 97 percent.

**Some risks involved**  
Cooper said reasons why families may choose

not to have their children vaccinated, or might be exempt from the state law requirements, are medical issues, which is rare, religious beliefs, and in some cases parents who have concerns with specific immunizations.

A recent worry is that vaccinations could lead to long-term illnesses like Autism.

"All of the vaccines that we give, we do so because the benefit is greater than the risk but it's very important that your pediatrician sit down with you and find out exactly what it is that you're worried about so that they can explain what the facts truly are," Cooper said.

And whether it's the correct year to get a vaccination or not, she also recommends parents still have their child checked out at least once a year.

"It gives the pediatrician a chance to track growth, height and weight," Cooper said. "And to make sure they are doing as well as they can before they start the school year."

Individuals who need vaccines or screenings are encouraged to make an appointment with their doctor or call the local health department at (770) 514-2485. Appointments are not necessary at the health department unless testing will be conducted Monday through Friday, 8 a.m. to 3:30 p.m.

For more information, visit Cobb & Douglas Public Health online at [cobb-douglaspublichealth.org](http://cobb-douglaspublichealth.org), or check out any of the following websites recommended by Cooper: Center for Disease

## Where to go

Below are the locations where Cobb & Douglas Public Health is giving back-to-school vaccinations and screenings for students. Appointments are not necessary. Each center is providing the services Monday through Friday, 8 a.m. to 3:30 p.m.

**Cobb County/Marietta**  
1650 County Services Parkway  
Marietta, 30008  
(770) 514-2300

**Douglas County/Douglasville**  
5770 Solimar Drive  
Douglasville, 30134  
(770) 949-1970

**Acworth**  
4489 Acworth Industrial Drive  
Acworth, 30101  
(770) 974-3330

**East Cobb**  
4838 Lower Roswell Road  
Marietta, 30068  
(770) 784-2180

**Helpful websites for questions, concerns about immunizations:**  
Cobb & Douglas Public Health: [cobb-douglaspublichealth.org](http://cobb-douglaspublichealth.org)  
Center for Disease Control and Prevention: [cdc.gov/vaccines](http://cdc.gov/vaccines)  
Every Child by 2: [everychild.org](http://everychild.org)  
Immunization Action Coalition: [immunize.org](http://immunize.org)

**Control and Prevention, cdc.gov/vaccines; Every Child by 2, everychild.org; and Immunization Action Coalition, immunize.org.**

some civil rights leaders called on Obama to lead a national conversation on race. But the president has resisted. Before Friday, his only comment on the verdict had been a written statement in which he called Martin's death a tragedy and appealed for calm.

But throughout the week, the president kept track of the national response to the verdict, particularly by black Americans, and had discussions with his family, aides

said. He was ready to address the verdict earlier this week during a round of interviews with Spanish language television stations, but the matter never came up.

On Thursday, he told his senior advisers that he felt the country needed to hear from him — not in an interview or speech, just a frank discussion of his views and experiences. He spoke from the lectern in the White House briefing room with no notes.

## Distillery

Continued from Page 1A

County Fire Marshal Jay Westbrook said he's not building.

Westbrook said the historic building at 2590 Moon Station Road will require a sprinkler system that could cost up to \$30,000.

Westbrook said he will not authorize one drop of craft whiskey to be produced by Lazy Guy Distillery until the upgrade is complete.

"This is a deal breaker," Allen said.

The only way to save the project at this point may be for the city to state up more incentives to cover the added costs.

Westbrook said the determination by Cobb County was based on the distilling process producing "flammable liquid" and storing the alcohol on site.

The city of Kennesaw uses the Cobb County Fire Department for its fire services.

"When it comes to safety issues, approval must be given by the (county) fire marshal, and the report came back that the portion of the property housing the distillery needs to be sprinkled," said Bob Fox, the city's director of economic development and one of the main negotiators of the original deal with Allen.

**Business negotiations**  
By the time Lazy Guy Distillery opens its doors, Allen said he will have invested \$700,000 and the extra fire safety expense is not something he is willing to fund.

Allen said he does not feel the city of Kennesaw was dishonest, but the sprinkler system cost was not in the business plan for the distillery.

If Allen has to purchase the equipment, with a majority of the cost going to run a waterline from the street to the building, then Lazy Guy Distillery will pick up and move out of state, he said.

"Every state bordering



Mark Allen, owner of Lazy Guy Distillery in Kennesaw, said remodeling of the new business will be completed this month. Equipment for the whiskey still was delivered last week, including the stills, above.

Georgia is much more tolerable," Allen said about distillery regulations in neighboring states.

The code issue raised enough concern that Marietta's economic development staff presented a report to City Council on June 26 about fire safety requirements for surrounding cities.

Both Sessions, Marietta's director of economic development, said her department told Allen his business would be required to have sprinklers due to the concerns about flammable liquid.

Sessions said she expected any city adhering to Cobb County regulations would require the same measures.

"That is a county decision not a city of Kennesaw decision," Sessions said.

**City could further subsidize project**  
Supporters in the community have given assurances the distillery will operate in Kennesaw, Allen said. He added that Fox said the city will do whatever it can to keep Lazy Guy Distillery.

On Wednesday, Fox updated the Kennesaw Development Authority on the distillery's problem and asked if the board would be interested in further subsidizing the new business, covering as much as a third of the sprinkler system's cost.

The Kennesaw Development Authority already com-

mitted \$15,000 in assistance to Lazy Guy Distillery as part of the board's recruitment for the establishment.

The funding, which was designated for property improvements, will not be released until the distillery obtains the needed business licenses.

The Kennesaw Development Authority has \$130,000 in its operating account, with \$40,000 available for business development, according to the board's budget report for the period ending June 30.

Board member Ken Williams, who is in his first term with the board and works at Dobbin's Air Reserve Base, said the business and property owners did not make an official request with the Kennesaw Development Authority and should ask in person at the next meeting Aug. 21.

Williams said he is willing to have the company explain their needs, but would "like to hear something about undue handling."

Allen said he would be glad to address the Kennesaw Development Authority, and is just waiting for a request from the board to attend its next meeting.

Fox reminded the board that Lazy Guy Distillery is already sparking media attention, and is a unique type of manufacturing business that will draw tourism to the city.

## Obama

Continued from Page 1A

the president appeared to signal that the Justice Department was unlikely to file federal civil rights charges against Zimmerman. Traditionally, he said, "there are issues of state and local government," and he warned that the public should have "clear expectations."

Following the verdict,

## House

Continued from Page 1A

education secretary to approve those plans. A Senate vote on that legislation is unlikely until autumn.

The House bill, which Republicans named the Student Success Act and Democrats dubbed the Letting Students Down Act, passed 221-207, with every Democrat, and 12 Republicans voting against it.

That partnership comes against a background in which almost everyone agrees that No Child Left Behind, while achieving some success in improving achievement levels, is too inflexible and needs a major overhaul.

The law was passed by Congress in 2001, a bipartisan effort led by, among others, current House Speaker John Boehner (R-Ohio) and the late Sen. Ted Kennedy (D-Mass.). President George W. Bush was a strong supporter and signed it into law in early 2002.

It required that all students be able to read and do math at their actual grade level by 2014. But the Obama administration, in a tacit acknowledgment that the goal was unrealistic, last year began offering waivers to states that came up with their own federally approved plans to prepare students for college and careers and to measure student and teacher performance.



## GUN & KNIFE SHOW

July 20-21

Sat. 9-5, Sun. 10-5

MARIETTA

Cobb County Civic Center

548 S. Marietta Parkway

Exit 263 off I-75 North

BUY • SELL • TRADE

INFO: (563) 927-8176

Dobbins to Conduct Open House to Discuss Tree Management

DOBBINS AIR RESERVE BASE, Ga. — Dobbin's Air Reserve Base (ARB) will host an open house meeting July 31, 2013 from 6-7 p.m. at the Central Cobb County Public Library to discuss findings from the Draft Environmental Assessment (EA) Addressing Tree Management at Dobbin's ARB.

The Draft EA is proposing to preserve flight safety at Dobbin's ARB by managing tree obstructions on- and off-installation.

The public is cordially invited to attend this open house on the Draft EA.

All media interested in attending can contact Dobbin's Public Affairs Office at (678) 655-5555 by 2 p.m. on July 30th.

**NOW OPEN**



**ASPEN VILLAGE**

SENIOR LIVING COMMUNITIES

Memory Care

[www.aspenvillageseniorliving.com](http://www.aspenvillageseniorliving.com)

Call for more information

770.635.1780

135 Hillside Trace, Dallas, GA 30157

July 20 – September 15

# Opening This Weekend~

## FOLK ART VISIONARIES

works by self-taught artists

### MetroMontage

A Juried Exhibition

**DON'T MISS OPENING NIGHT**

Saturday, July 20, 2013  
6:00pm - 8:00pm

- Light refreshments and cash bar
- Preview Reception is a benefit of artists exhibiting and museum membership
- Guests are welcome at \$8 per person
- Memberships can be purchased at the event

MARIETTA/COBB MUSEUM OF ART  
Building Community Through Art

30 Atlanta Street, Marietta, GA 30060 (770) 528-1444, [www.marietta-cobbmuseum.org](http://www.marietta-cobbmuseum.org)

Special thanks to our generous sponsors:

GAS SOUTH VELOCITECH IN WELLSVILLE GEORGIA HOUSE OF ARTS

COBB LIFE MARIETTA SARTON GEORGIA HOUSE OF ARTS



## Storms

Continued from Page 1B

Many residents left with only the clothes on their backs. And in the case of one woman, Miliana Medina, a 5-year-old and a half-month-old baby girl, Allie Curie, in her arms.

Boyd said the entire structure is unstable with major damage to the front of the building.

"As many pets as we can retrieve safely, we will turn over to Animal Control," Boyd said. Cobb County Animal Control will house the pets at the shelter until

owners can claim them.

The Cobb County Building Department will do an inspection of the building Monday to investigate the damage.

Residents will not be permitted to enter the apartments, even to retrieve belongings, until it is cleared.

By late Saturday evening, Red Cross arrived to assist residents gathering in the Ivy Ridge leasing office.

Red Cross will interview each resident and issue debit cards loaded with funds to buy food, clothing and at least three nights in a local hotel.

## Honored

Continued from Page 1B

and we distribute throughout Atlanta and through many of those same schools, churches and businesses," he said.

Jones and his volunteers staff backpacks with the donated goods and, to date, Back-N-Pack has raised \$4,500 and provided 15,000 pounds of food to help

"I'm a kid from Marietta, Ga., and I'm being recognized among all these other people from all over the U.S.A.," Jones said.

Between Wednesday and Friday, Garland Jones participated in a photo shoot where he got to pose with the two, one-of-a-kind Build-A-Bear minis he created, attended workshops where he learned how to generate more funds for his project and celebrated with a banquet Friday night where he received the public service award, which was founded in 1972.

To learn more about Garland Jones's charity, or to make a donation, visit [crowdfunderforjones.org](http://crowdfunderforjones.org).

Jones' mother, Carla Jones, nominated the teenager for the honor. "I am just extremely proud of him," she said. "Garland has the heart to really serve people in his community and he enjoys working with youth in that capacity. ... I really like the mission."

## Trayvon

Continued from Page 1B

occurred in the shadows of federal buildings named for two figures who had vastly differing views on civil rights and racial equality.

Richard B. Russell was a Georgia governor and U.S. senator elected in the Jim Crow South; Martin Luther King Jr. is the face of African-American civil rights movement.

"What's so frightening about a black man in a hood?" said the Rev. Raphael Warnock, who now occupies the pulpit at King's Ebenezer Baptist Church.

"History would suggest that we have plenty of data to be worried when we see other folk moving through our neighborhoods in hoods. Some of them have on pirate suits — but in their hearts, they're wearing a hood."

In addition to pushing the Justice Department to investigate

civil rights charges against Zimmerman, Sharp told reporters in New York that he wants to see a rollback of "stand-your-ground" self-defense laws.

"We're trying to change laws so that this never happens again," Sharp said.

"Stand-your-ground" laws are on the books in more than 20 states, and they go beyond many older, traditional self-defense statutes. In general, the newer laws eliminate a person's duty to retreat, if possible, in the face of a physical threat.



Family Law cases are not like other cases.



Call for an appointment  
On the Marietta Square at 13 W. Park Sq.

**Dobbins to Conduct Open House to Discuss Tree Management**

DOBBINS AIR RESERVE BASE, Ga. — Dobbins Air Reserve Base (ARB) will host an open house meeting, July 31, 2013 from 6-7 p.m. at the Central Cobb County Public Library to discuss findings from the Draft Environmental Assessment (EA) Addressing Tree Management at Dobbins ARB.

The Draft EA is proposing to preserve flight safety at Dobbins ARB by managing tree obstructions on- and off-installation.

The public is cordially invited to attend this open house on the Draft EA.

All media interested in attending can contact Dobbins Public Affairs Office at (678) 655-5055 by 2 p.m. on July 30.

## Cobb

Continued from Page 1B

Six Flags Drive has long been a source of contention for south Cobb residents.

Cupid was visibly upset at a Board of Commissioners meeting July 9 when she asked her fellow commissioners not to support transferring an alcohol license from one owner of the Marathon gas station, at 340 Six Flags Drive, to another owner.

The shopping center that is home to the Marathon has been a source of crime for years, Cupid said, and she is ready to see a change.

"You don't live there," Cupid told the commission. "I live off Six Flags Drive."

Adcock recommended approval based on improvements the hopeful license holder made to the property and the alcohol license transfer raised the commission with a 4-1 vote with Cupid the lone dissenter.

It's true that shopping center has been a hub for crime, Adcock told residents at the town hall meeting later that day.

Officers noticed suspicious activity at the Food Mart that shares a shopping center with the Marathon and ultimately obtained a search warrant for the store.

"We were making a lot of arrests and it wasn't solving the problem," Adcock said.

They found makeshift creek pipes for sale inside the store along with small bags typically used to hold marijuana, Adcock said, and learned drug dealers were paying store clerks and the store owner to allow them to sell drugs inside the store.

The store's business license was taken and the owner arrested.

Adcock told residents he wants to pursue creating a drug-free commercial zone in the Six Flags Drive area that, if approved, would mandate additional sentencing for drug-related crimes and ban individuals convicted of crimes involving drugs from the area for two years.

Cupid maintains it's going to take a holistic approach to curb crime in south Cobb. Development needs to be encouraged.

schools improved and the quality of life boosted.

"To just say I want to eradicate crime is insensitive to the larger issue," Cupid said.

### Education

South Cobb schools don't hold up to their east and north Cobb peers when looking at a new state ranking system, the College and Career Readiness Performance Index, more commonly called CCRIPI, begun by the Georgia Department of Education earlier this year as an alternative to the Adequate Yearly Progress system used under No Child Left Behind.

The system ranks schools on a multitude of factors including achievement of students and preparation for college or the workforce. The highest ranking high school in southwest Cobb on the state's CCRIPI scale is McEachern High School, the most western and northern school in southwest Cobb, in Powder Springs with a score of 79.3. The rest of the area high schools have rankings of 63.3 for South Cobb High School, 68.2 for Pebblebrook High School and 68.7 for Osborn High School.

That's compared to the county's highest ranking schools located in east Cobb, each with a 94.4.

Walton High School and Lassiter High School. Other schools fall somewhere in the middle, like Wheeler High School with a 79.1 in southeast Cobb and 88.9 for Alhambra High School in north Cobb.

Cupid says it's not fair to judge a school, or its students, based on test scores.

"It doesn't do justice to the children who are achieving," Cupid said, remembering a conversation she had with a constituent whose children attended southwest Cobb high schools and are now attending prestigious colleges.

### Development

South Cobb was the first area in the county to be developed because of its proximity to downtown Atlanta and, as a result, has

some of the oldest homes and commercial buildings. Some have fallen into disrepair and are a blight on the community.

Cupid says she's reaching for the "low hanging fruit" like enforcement of county property ordinances.

"The quality of life and quality of the people is not reflected," Cupid said, referring to derelict properties. Encouraging redevelopment will take creativity and public-private partnerships, Cupid said.

Getting there can be as simple as picking up the telephone.

A developer recently purchased three apartment complexes, Cupid said, and the deal all started with a phone call.

"It may seem complicated, but I think a lot of doom can be opened by simply communicating, or I'll even go a step further and say advocating, our area," Cupid said.

The area is still feeling the effects of the Great Recession that all but brought development to a halt, said Ford Thigpen, president of the South Cobb Business Association.

"There are less developers and the existing developers are nervous about starting new projects," Thigpen said.

Still, there are attractions to be proud of.

There is more land available in southwest Cobb to develop and its proximity to the Atlanta area makes it attractive to industry and homeowners alike.

Daren Favorite owns The Showman, a food truck based in Marietta, and says some struggles with redevelopment could be solved by making it easier to start a business.

The process applying to get a license to start a business is just so absolutely ridiculously unnecessary," Favorite said. "They put up so many hurdles."

Cupid says there could be room to explore making things easier for entrepreneurs.

Some incentives already exist. An opportunity zone is in place near Six Flags giving businesses job tax credits if they hire at least two employees. The Board of Commissioners will consider another tax incentive

### South Cobb statistics

Crime from Jan. 1 – June 30, 2013

► AREA: 75 square miles

► CALLS FOR SERVICE: 38,757

► ARRESTS: 1,807

► ACCIDENTS: 1,749

High school rankings based on state rankings out of a possible 100:

North Cobb Commission District 1:

► HIGHEST: Harrison High School, 83.9

► LOWEST: North Cobb High School, 86.5

Southeast Cobb Commission District 2:

► HIGHEST: Walton High School, 94.4

► LOWEST: Campbell High School, 71

East Cobb Commission District 3:

► HIGHEST: Lassiter High School, 94.4

► LOWEST: West High School, 82.7

South Cobb Commission District 4:

► HIGHEST: McEachern High School, 79.5

► LOWEST: South Cobb High School, 63.3

program at its meeting at 7 a.m. Tuesday at 100 Cherokee St. when the board takes up the creation of an enterprise zone for south Cobb.

It's the points of pride for south Cobb like Six Flags, Mable House Barnes Amphitheater and the Silver Comet Trail that should take the focus, Cupid said, and serve as a testament to what the area can become.

There's no one answer to changing south Cobb's image, Cupid said, calling it the "billion dollar question," but she's convinced a large part of that answer lies with residents.

Neighbors volunteer their time to improve where they live and civic groups take up issues trying to better the community.

"Those are the things that unite us," Cupid said.

**Creekside Pines**  
INDEPENDENT SENIOR LIVING  
Stop by for a tour today or book your FREE 5 day stay!  
Dallas' only all-inclusive Retirement Community  
Summer Two Bedroom Apartments  
at Greatly Reduced Prices  
Mexican Specials  
1011 Merchants Drive  
Duluth, GA 30132  
(678) 363-0777  
[CreeksidePinesSeniorLiving.com](http://CreeksidePinesSeniorLiving.com)

**NOW OPEN**  
**ASPEN VILLAGE**  
Memory Care  
[www.aspenvillageseniorliving.com](http://www.aspenvillageseniorliving.com)  
Call for more information  
**770.635.1780**  
135 Hillside Trace, Dallas, GA 30157

**The Dallas Theater Presents**  
**THAT PUPPET GUY** Lee Bryan  
The Dallas Theater is located at  
208 Main St  
Dallas, GA 30132  
678-363-0913  
Tuesday, July 23rd, 2013  
11AM & 2PM  
PURCHASE TICKETS THE DAY OF SHOW OR ONLINE  
AT [DALLASTHEATERTHEATRE.COM](http://DALLASTHEATERTHEATRE.COM)

**Ad**  
KENNEDY DENTAL DESIGNS  
general and cosmetic dentistry  
New Patients Welcome  
In-Network with:  
**770-426-4188**  
709 Canton Road, NE | Suite 210 | Marietta, Georgia 30060  
[www.kennedydentaldesigns.com](http://www.kennedydentaldesigns.com)

**"This is how I want him to remember me."**  
SouthCare helps transform the sadness of death into lifelong memories, without the cost of traditional funeral homes. Ask how our Society Membership makes the perfect memorial even more affordable.  
[www.southcare.us](http://www.southcare.us)  
770-872-0244  
Serving All of Georgia  
**SOUTHCARE**

**HEAR-RITE**  
Cobb Hearing Aid Services  
**It's Quality**  
Call today to schedule your free hearing test!  
770-590-8662  
[www.HearRiteUSA.com](http://www.HearRiteUSA.com)

**Main Office**

580 Fairground Street  
Post Office Box 449  
Marietta, Georgia 30061  
Phone: 770.428.9411  
Fax: 770.428.5375

**Cobb County**

Marietta Daily Journal  
Cobb Life Magazine  
East Cobb Neighbor  
North Cobb Neighbor  
South Cobb Neighbor  
Smyrna Neighbor  
Vinnings Neighbor

**Cherokee County**

Cherokee Tribune  
Cherokee Life Magazine  
Cherokee Tribune Plus

**Bartow County**

Bartow Neighbor

**Douglas County**

Douglas Neighbor

**Paulding County**

Paulding Neighbor

**Fulton County**

Northside Neighbor  
Sandy Springs Neighbor  
Sandy Springs Life Magazine  
Roswell Neighbor  
Johns Creek Neighbor  
Milton Neighbor  
Alpharetta Neighbor  
South Fulton Neighbor

**Fayette County**

Fayette Neighbor

**Henry County**

Henry Neighbor

**Clayton County**

Clayton Neighbor

**DeKalb County**

Dunwoody Neighbor  
Dunwoody Life Magazine  
North DeKalb Neighbor  
Mid DeKalb Neighbor

Proudly Serving  
Suburban Atlanta

Ten Counties

Over 400,000  
Audited Circulation

## AFFIDAVIT OF PUBLICATION

I, Wade Stephens do solemnly swear that I am

Vice President of the Marietta Daily Journal,

Cherokee Tribune, and Neighbor Newspapers, printed

and published at Marietta in the State of Georgia and that

from my own personal knowledge and reference to the files

of said publication, the advertisements for:

**“Public Notice - Notice of Availability tDraft Environmental  
Assessment Addressing Tree Management at Dobbins Air  
Reserve Base, Georgia”,**

was published in the: Marietta Daily Journal, Page 3A

On Tuesday, July 23rd of the year 2013

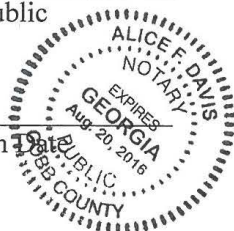
Wade Stephens

Subscribed and sworn to before 24th day of JULY, 2013.

[Signature]

Notary Public

Expiration 1st





## Detroit finance case set for Wed.

By David Eggert  
and Ed White  
Associated Press Writers

**DETROIT** — The federal judge overseeing Detroit's bankruptcy set the first hearing in the case for Wednesday after the city urged him to stop pensioners from filing lawsuits that could gum up plans to restructure billions of dollars in debt.

It will be the first hearing less than a week after Detroit became the largest U.S. city to file for bankruptcy. Judge Steven Rhodes said Monday he'll take up just a few issues.

The city wants Rhodes to suspend lawsuits and prevent new ones, especially in state court. In one lawsuit, pensioners have complained that retirement checks could be in jeopardy in violation of the Michigan Constitution. An Ingham County judge ordered Detroit emergency manager Kevin Orr and Gov. Rick Snyder to



The Associated Press  
An abandoned house and overgrown lawn stand in a neighborhood on Detroit's northwest side Friday. The federal judge overseeing Detroit's bankruptcy set the first hearing in the case for Wednesday after the city urged him to stop pensioners from filing lawsuits that could gum up plans to restructure billions of dollars in debt.

not take any more action in the bankruptcy.

The status of employee pensions is expected to be a key issue in the bankruptcy. Or has said that pension benefits could be reduced along with other debts as the city returns to sound financial footing.

Lawyers for the city said U.S. Bankruptcy Court is the only appropriate venue for matters related to the case. It's routine, they said, for all other litigation to be stopped, giving a debtor such as Detroit a "breathing spell" as it works to protect

assets and restructure debts.

Employee unions are citing a provision in the Michigan Constitution says pensions for public employees "shall not be diminished or impaired."

In her ruling Monday, Ingham County Circuit Judge Rosemarie Aquilina said, "I don't think the constitution should be made to be Swiss cheese. Once we end it with one hole, there will be others."

Ron King, an attorney for Detroit's pension funds, said he finds aren't trying to stop the bankruptcy, just

## Ohio man charged with murder after three bodies found

By Thomas J. Sheeran  
Associated Press Writer

**EAST CLEVELAND, Ohio** — An Ohio man possibly influenced by a serial killer was charged Monday with aggravated murder after three bodies wrapped in trash bags were found in suburban Cleveland.



Michael Madison

A call to police Friday led authorities to a home and a standoff with the suspect, who was eventually taken into custody, East Cleveland Mayor Gary Norton said.

Michael Madison, 35, was charged with three counts each of aggravated murder and kidnapping. He didn't enter a plea at a brief court appearance where he was set at \$6 million. He also waived his right to a preliminary hearing.

Police and volunteers scoured about 40 empty homes Sunday until their search was suspended, with no immediate plans to resume.

Authorities said they had identified only one of the victims, Angela Deskins, who was believed to be 38 years old. The other two bodies were too badly decomposed to identify. The medical examiner also said he couldn't determine if this was a case of death because of the bodies' conditions.

Cuyahoga County Medical Examiner Thomas Gibson said fingerprints, dental records and DNA genetic material would be used to try to identify the other two victims.

One had numerous tattoos, including the left thumb, left forearm, left thigh and left breast.

At some point, Gibson said, his office might seek DNA samples from relatives of missing women who might be victims.

All Bilal, 31, of East Cleveland, sitting in the neighborhood where the bodies were found, said he knew Deskins casually and called her friendly and nice to be around.

"I knew her as a nice person. We spoke here and there, she used to come over and talk to my brother," he said. "For the most part, she was a sweet, real nice conversation, pretty much a good person to talk to, good person to be around."

He wasn't familiar with her personal life.

The mayor said the suspect indicated he might have been influenced by the earlier case of a Cleveland serial killer convicted in the deaths of 11 women.

## Digital habits differ after NSA scandal

By Oskar Garcia  
Associated Press Writer

In Louisiana, the wife of a former soldier is scaling back on Facebook posts and considering unfriending old acquaintances, worried an innocuous text or long-lost associate might one day land her in a government probe.

In California, a college student encrypts chat and email, anything he's not posting on Facebook, and anything he's not posting on Facebook, and anything he's not posting on Facebook.

In case such programs are expanded, others are looking to send a message — not just to the U.S. government but to the Internet companies that collect so much personal information.

"We all think that nobody's interested in us, we're all simple folk," said Dom Moran of Alexandria, La. "But you start looking at the numbers and the phone records ... it makes you really hesitant."

Last month former government contractor Edward Snowden leaked documents revealing that the National Security Agency, as part of its anti-terrorism efforts, had collected the phone records of millions of Americans. A second NSA program called PRISM forces major Internet firms to turn over the detailed contents of communications such as email, video chats, pictures and more.

Moran's husband, an ex-Army man, already was guarded about using social media. Now she is looking through her Facebook "friends" to consider whom to delete, because she can't know what someone in her network might do in the future.



The Associated Press  
An investigator and his dog search a wooded area Sunday near where three bodies were recently found in East Cleveland, Ohio.



The Associated Press  
Patricia Larry, Darius Simmons' mother, pauses to hold back tears as she testifies Tuesday in Milwaukee about how she saw her son shot by neighbor John Spooner. Spooner was convicted of fatally shooting the unarmed teenager and sentenced to life in prison Monday.

## Wis. man gets life for killing teen neighbor

By Dinesh Ramde  
Associated Press Writer

**MILWAUKEE** — A 76-year-old Milwaukee man who fatally shot his unarmed teenage neighbor was sentenced to life in prison Monday, days after telling the court he killed the boy for justice because he believed he stole his shotgun.



John Henry Spooner

John Henry Spooner's home had been burglarized two days before the May 2012 shooting, and he suspected 13-year-old Darius Simmons as the thief. So he confronted the teen, demanded that he return the guns and then shot him in the chest in front of his mother when he denied stealing anything.

Spooner's own home surveillance cameras captured the shooting, and prosecutors aired the footage in court.

A jury found Spooner guilty of first-degree intentional homicide last week, a conviction carrying a mandatory life sentence.

The judge could have allowed for the possibility of parole after 20 years, but rejected that option, citing Spooner's lack of remorse and desire to also kill the teen's brother.

Spooner, who has lung cancer and other physical ailments, will spend the rest of his life in prison.

While in court for his sentencing, Spooner spoke in a frail voice that was sometimes difficult to hear and reiterated that he felt he had little choice but to take the law into his own hands.

"They had to rob the house," he said. "Why'd they do that to me? ... They pushed me over the edge, I guess. I don't know. As far as being sorry, I don't know if I did right or wrong."

Family Law cases are not like other cases.



www.TheGunnFirm.com

404-969-4505

Call for an appointment

On the Marietta Square at 13 W. Park St.

20 years of experience in the

Newly Used Office Furniture Industry.

2865 Log Cabin Drive

Smyrna, GA 30080

P: 404.872.7280

F: 404.872.7044

www.nrlinc.com

PRE-OWNED FURNITURE

21% OFF

For a limited time only

**NOW OPEN**

**ASPEN VILLAGE**

Memory Care  
www.aspenvillagecenterliving.com

Call for more information  
**770.635.1780**

135 Hillside Trace, Dallas, GA 30157

**PUBLIC NOTICE**  
Air Force Reserve Command

**Notice of Availability**  
Draft Environmental Assessment  
Addressing Tree Management at  
Dobbins Air Reserve Base, Georgia

The Air Force Reserve Command (AFRC), in conjunction with Dobbins Air Reserve Base (ARB), has completed a Draft Environmental Assessment (EA) that evaluates the potential effects of managing tree removals at Dobbins ARB, Georgia.

The analysis considered, in detail, the potential environmental effects of the Proposed Action and the No Action Alternative. Some of the issues requiring management are on private property and have grown to a height that adversely affects flight safety. To manage these tree obstructions, land access agreements or enforcement of existing zoning ordinances could be required. The results, as found in the EA, show that the Proposed Action would not have a significant impact on the environment, indicating that a finding of No Significant Impact (FONSI) is appropriate. In accordance with 32 CFR Part 199, the AFRC will prepare a FONSI statement, which will be made available to the public for review and comment. A FONSI statement is not considered necessary to implement the Proposed Action. Copies of the Draft EA presenting the analysis are available for review at the following locations:

Cobb County Central Library  
266 Roswell Street  
Marietta, GA 30060

Smyrna Public Library  
180 Village Green Circle  
Smyrna, Georgia 30080-3478

The document is also available online:  
<http://www.dobbins.af.mil/SharedMedia/Document/AFD-130717-046.pdf>

Written comments on the Draft EA are invited and will be accepted for 30 days from the publication of this notice. Comments for consideration by the AFRC on this document should be provided in writing to:

94th Airlift Wing Public Affairs Office  
1430 First Street  
Marietta, GA 30060  
Phone: 678-655-5205  
Email: 94AW.PA@us.af.mil  
Website: <http://www.dobbins.af.mil>

## **APPENDIX B**

### **HEIGHT OBSTRUCTION CRITERIA**



# Appendix B

## Height Obstruction Criteria

---

**General.** This appendix establishes criteria for determining whether an object or structure is an obstruction to air navigation. Obstructions to air navigation are as follows:

- Natural objects or man-made structures that protrude above the planes or surfaces as defined in the following paragraphs.
- Man-made objects that extend more than 500 feet above the ground at the site of the structure.

**Explanation of Terms.** The following will apply:

- *Controlling Elevation.* Whenever surfaces or planes within the obstructions criteria overlap, the controlling (or governing) elevation becomes that of the lowest surface or plane.
- *Runway Length.* Dobbins ARB has one runway (Runway 11/29) and one assault strip (Runway 110/290). Both runways are oriented in an east/west direction. Runway 11/29 is 10,000 feet long and 300 feet wide, the assault strip is 3,500 feet long and 60 feet wide. The runways are designed and built for sustained aircraft landings and takeoffs.
- *Established Airfield Elevation.* The elevation, in feet above mean sea level, for Dobbins ARB is approximately 1,068 feet.
- *Dimensions.* All dimensions are measured horizontally unless otherwise noted.

For a more complete description of airspace and control surfaces for Class A and Class B runways, see Federal Aviation Regulation (FAR) Part 77, Subpart C, or Unified Facilities Criteria 3-260-01.

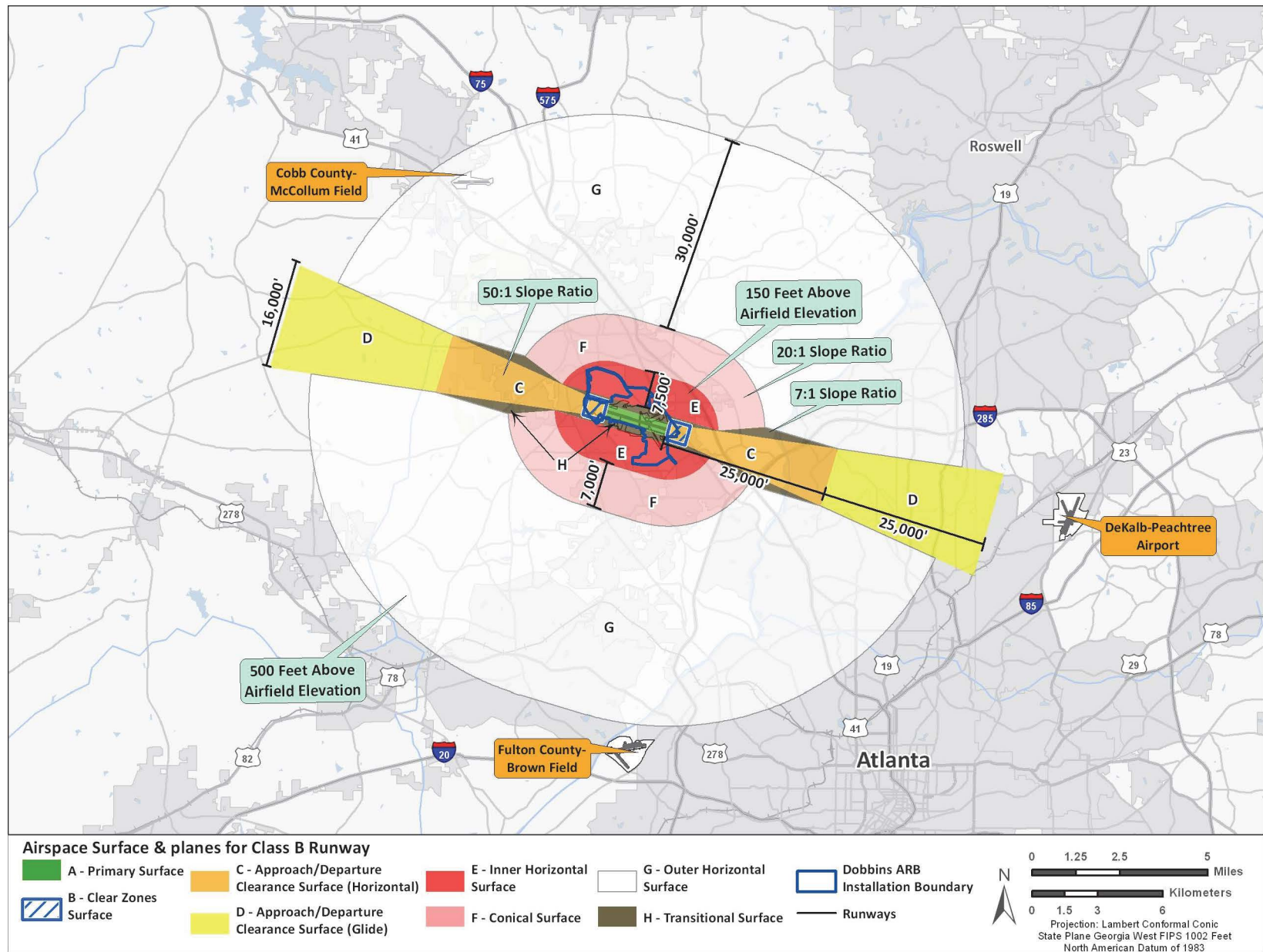
**Planes and Surfaces.** Definitions for military surfaces are as follows (see **Figures B-1** through **B-3**):

### **Primary Surface**

- This surface defines the limits of the obstruction clearance requirements in the immediate vicinity of the landing area.
- The primary surface comprises surfaces of the runway, runway shoulders, and lateral safety zones and extends 200 feet beyond the runway end.
- The width of the primary surface for a single class “B” runway is 2,000 feet, or 1,000 feet on each side of the runway centerline.

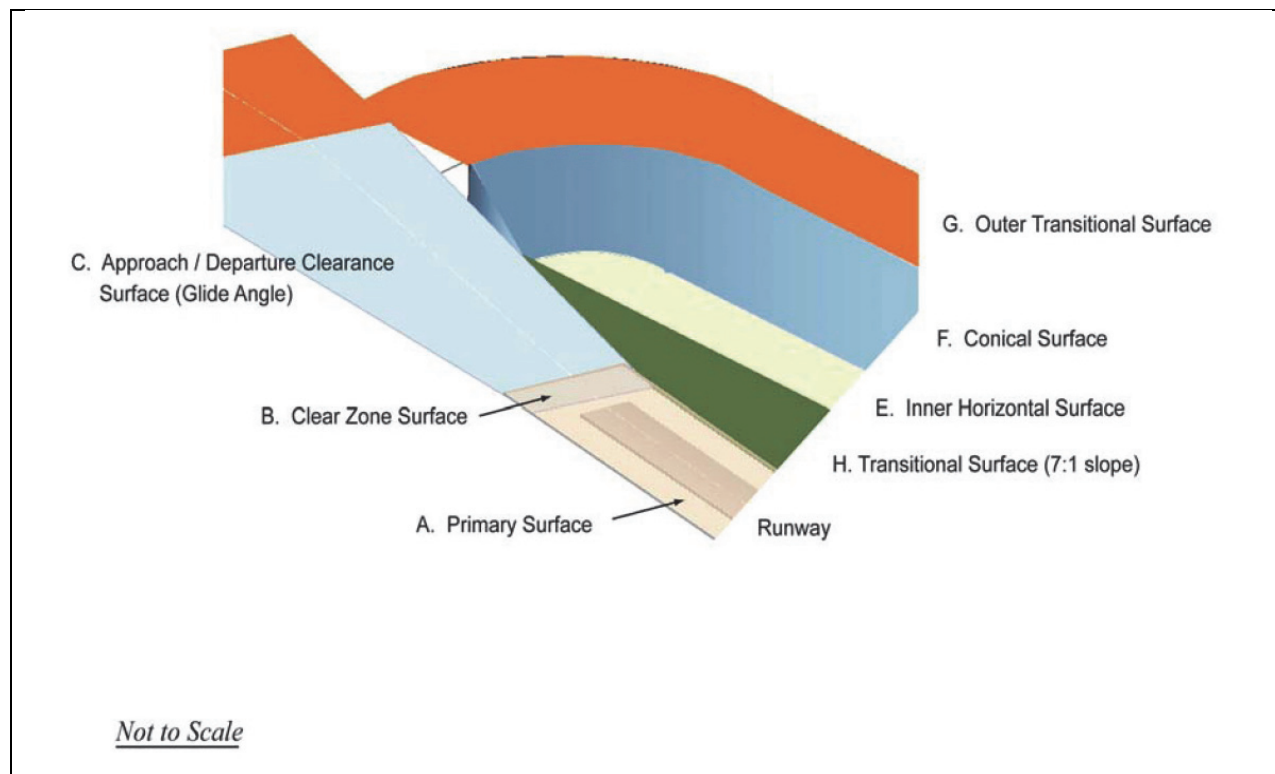
### **Clear Zone Surface**

- This surface defines the limits of the obstruction clearance requirements in the vicinity contiguous to the end of the primary surface.
- The clear zone surface is located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface. (This definition is for Federal Aviation Administration defined surfaces and should not be confused with the Clear Zone which is used to describe accident potential.)

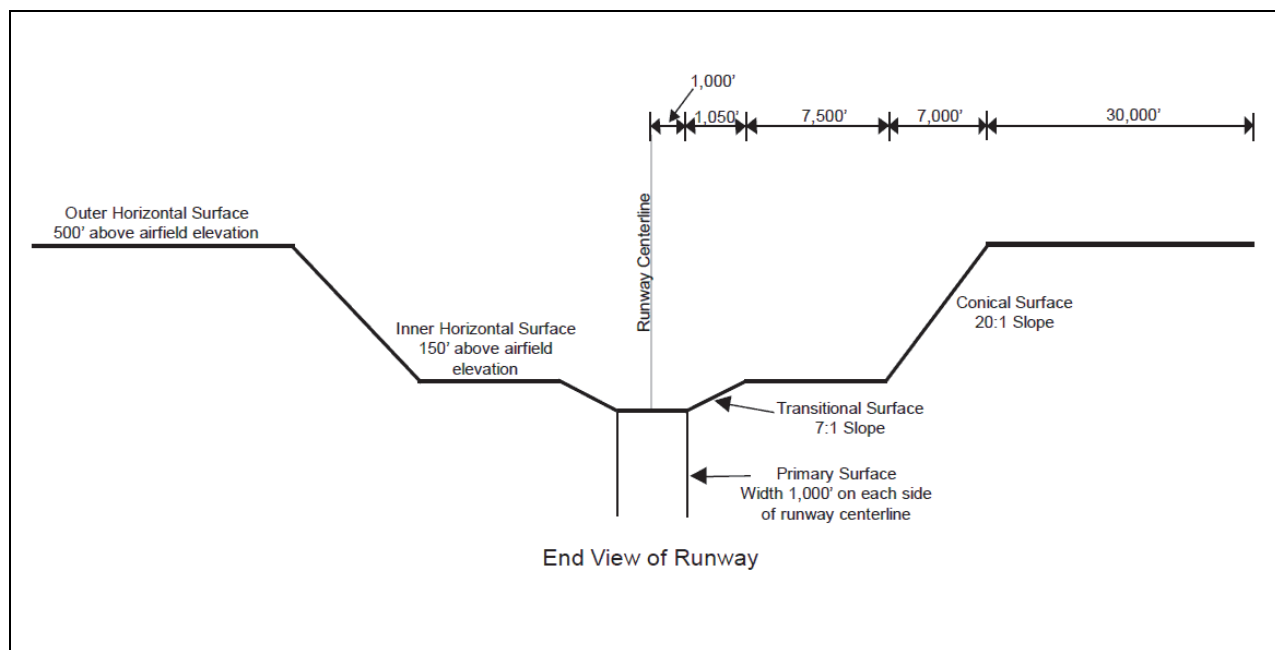


**Figure B-1. Airspace Control Surface Plan for Dobbins ARB**





**Figure B-2. Three Dimensional View of FAR Part 77 Surfaces**



**Figure B-3. Cross-Section View of FAR Part 77 Surfaces**

### **Approach-Departure Clearance Surface**

- This surface is symmetrical around the runway centerline extended, begins as an inclined plane (glide angle) 200 feet beyond each end of the primary surface of the centerline elevation of the runway end, and extends for 50,000 feet.
- The slope of the approach-departure clearance surface is 50:1 along the extended runway (glide angle) centerline until it reaches an elevation of 500 feet above the established airfield elevation.
- It then continues horizontally at this elevation to a point 50,000 feet from the start of the glide angle.
- The width of this surface at the runway end is 2,000 feet; it flares uniformly, and the width at 50,000 feet is 16,000 feet.

### **Inner Horizontal Surface**

- This surface is a plane, oval in shape at a height of 150 feet above the established airfield elevation.
- It is constructed by scribing an arc with a radius of 7,500 feet above the centerline at the end of the runway and interconnecting these arcs with tangents.

### **Conical Surface**

- This is an inclined surface extending outward and upward from the outer periphery of the inner horizontal surface for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.
- The slope of the conical surface is 20:1.

### **Outer Horizontal Surface**

- This surface is a plane 500 feet above the established airfield elevation.
- It extends for a horizontal distance of 30,000 feet from the outer periphery of the conical surface.

### **Transitional Surfaces**

- These surfaces connect the primary surfaces, clear zone surfaces, and approach-departure clearance surfaces to the outer horizontal surface, conical surface, other horizontal surface, or other transitional surfaces.
- The slope of the transitional surface is 7:1 outward and upward at right angles starting at 1,000 feet out from the runway centerline.
- To determine the elevation for the beginning of the transitional surface slope at any point along the lateral boundary of the primary surface, including the clear zone, draw a line from this point to the runway centerline.
- This line will be at right angles to the runway axis.
- The elevation at the runway centerline is the elevation for the beginning of the 7:1 slope.

The land areas outlined by these criteria should be regulated to prevent uses which might otherwise be hazardous to aircraft operations. The following uses should be restricted or prohibited:

- Uses that release into the air any substance that would impair visibility or otherwise interfere with the operation of aircraft (i.e., steam, dust, or smoke).
- Uses that produce light emissions, either direct or indirect (reflective), which would interfere with pilot vision.
- Uses that produce electrical emissions that would interfere with aircraft communications systems or navigational equipment.
- Uses that would attract birds or waterfowl, including but not limited to, operation of sanitary landfills, maintenance of feeding stations, or the growing of certain vegetation.
- Uses that provide for structures within ten feet of aircraft approach-departure or transitional surfaces.

### **Height Restrictions**

- City/county agencies involved with approvals of permits for construction should require developers to submit calculations which show that projects meet the height restriction criteria of Federal Aviation Administration Part 77 and Unified Facilities Criteria 3-260-1 as described, in part, by the information contained in this appendix.

***THIS PAGE INTENTIONALLY LEFT BLANK***

## **APPENDIX C**

### **AIR QUALITY CALCULATIONS**



<b>Summary</b>	Summarizes total emissions by calendar year for Tree Management Activities
<b>Combustion</b>	Estimates emissions from non-road equipment exhaust.
<b>Fugitive</b>	Estimates particulate emissions from tree management activities including tree removal, vehicle traffic, and windblown dust.
<b>Grading</b>	Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions.
<b>Haul Truck On-Road</b>	Estimates emissions from haul trucks hauling materials from the job site.
<b>Construction Commuter</b>	Estimates emissions for workers commuting to and from the sites.
<b>AQCR Tier Report</b>	Summarizes total emissions for the Metropolitan Atlanta AQCR Region Tier report for 2008, to be used to compare Tree Management Activities to regional emissions.



#### Air Emissions for Tree Management

	NO <sub>x</sub> (ton)	VOC (ton)	CO (ton)	SO <sub>2</sub> (ton)	PM <sub>10</sub> (ton)	PM <sub>2.5</sub> (ton)	CO <sub>2</sub> (ton)
Combustion	19.655	0.913	9.978	1.563	0.872	0.845	2,214.758
Fugitive Dust	-	-	-	-	82.196	8.220	-
Haul Truck On-Road	0.002	0.001	0.005	0.000	0.002	0.001	0.435
Commuter	0.025	0.025	0.223	0.000	0.002	0.001	29.583
<b>TOTAL</b>	<b>19.682</b>	<b>0.939</b>	<b>10.206</b>	<b>1.563</b>	<b>83.072</b>	<b>9.067</b>	<b>2,244.777</b>

Note: Total PM<sub>10/2.5</sub> fugitive dust emissions are assuming USEPA 50% control efficiencies.

CO <sub>2</sub> emissions converted to metric tons =	<b>2,036.013</b>	<b>metric tons</b>	
State of Georgia's CO <sub>2</sub> emissions =	<b>164,200,000</b>	<b>metric tons</b>	(U.S. DOE/EIA 2011)
Percent of Georgia's CO <sub>2</sub> emissions =	<b>0.00124%</b>		
United States' CO <sub>2</sub> emissions =	<b>5,814,400,000</b>	<b>metric tons</b>	(U.S. DOE/EIA 2011)
Percent of USA's CO <sub>2</sub> emissions =	<b>0.000035%</b>		

Source: U.S. Department of Energy, Energy Information Administration (U.S. DOE/EIA). 2012. *Table 1. State Emissions by Year (Million Metric Tons of Carbon Dioxide)*. Available online <[http://www.eia.gov/environment/emissions/state/state\\_emissions.cfm](http://www.eia.gov/environment/emissions/state/state_emissions.cfm)>. Data released October 2011. Data accessed 01 May 2012.

Since future year budgets were not readily available, actual 2008 air emissions inventories for the counties were used as an approximation of the regional inventory. Because Tree Management Activities are several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set were used.

#### Metropolitan Atlanta Air Quality Control Region

Year	Point and Area Sources Combined					
	NO <sub>x</sub> (tpy)	VOC (tpy)	CO (tpy)	SO <sub>2</sub> (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)
2008	161,849	150,101	890,752	178,961	165,459	34,875

Source: USEPA National Emissions Inventory (NEI) (<http://neibrowser.epa.gov/eis-public-web/home.html>). Site visited on 01 May 2012

#### Air Emissions from Tree Management Activities

Point and Area Sources Combined						
NO <sub>x</sub> (tpy)	VOC (tpy)	CO (tpy)	SO <sub>2</sub> (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)	
161,849	150,101	890,752	178,961	165,459	34,875	
19.682	0.939	10.206	1.563	83.072	9.067	
<b>0.012%</b>	<b>0.001%</b>	<b>0.001%</b>	<b>0.001%</b>	<b>0.050%</b>	<b>0.026%</b>	

Regional Emissions  
Emissions  
% of Regional

**Combustion Emissions**

Combustion Emissions of VOC, NO<sub>x</sub>, SO<sub>2</sub>, CO, PM<sub>2.5</sub>, PM<sub>10</sub>, and CO<sub>2</sub> due to Tree Management Activities

<b>Tree Management Technique</b>	<b>Area Disturbed</b>	
1.) Tree Felling (removal)	92.90 acres	Assumed 85% of all tree management is Tree Felling.
2.) Tree Trimming	15.98 acres	Assumed 15% of all tree management is Tree Trimming.
3.) Grading	81.66 acres	Assume 75% of total area requires grading.
Total Tree Felling Area:	4,046,724 ft <sup>2</sup> 92.90 acres	
Total Tree Trimming Area:	696,089 ft <sup>2</sup> 15.98 acres	
Total Disturbed Area:	108.88 acres 4,742,812.8 ft <sup>2</sup>	
Construction Duration:	6 months	
Annual Construction Activity:	120 days	Assume 4 weeks per month, 5 days per week.

## Emission Factors Used for Construction Equipment

References: Guide to Air Quality Assessment, SMAQMD, 2004; and U.S. EPA NONROAD Emissions Model, Version 2005.0.0  
Emission factors are taken from the NONROAD model and were provided to e<sup>2</sup>M by Larry Landman of the Air Quality and Modeling Center (Landman.Larry@epamail.epa.gov) on 12/14/07. Factors provided are for the weighted average US fleet for CY2007.  
Assumptions regarding the type and number of equipment are from SMAQMD Table 3-1 unless otherwise noted.

### Grading

Equipment	No. Req <sup>d</sup> . <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup> (lb/day)	PM <sub>10</sub> (lb/day)	PM <sub>2.5</sub> (lb/day)	CO <sub>2</sub> (lb/day)
Bulldozer	1	13.60	0.96	5.50	1.02	0.89	0.87	1456.90
Motor Grader	1	9.69	0.73	3.20	0.80	0.66	0.64	1141.65
Water Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	3	41.64	2.58	15.71	3.45	2.55	2.47	4941.53

### Tree Felling

Equipment	No. Req <sup>d</sup> . <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup> (lb/day)	PM <sub>10</sub> (lb/day)	PM <sub>2.5</sub> (lb/day)	CO <sub>2</sub> (lb/day)
Feller Buncher/Skidder	1	20.74	0.85	11.00	1.46	0.63	0.61	2007.72
Haul Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	2	39.10	1.74	18.00	3.09	1.63	1.58	4350.69

### Tree Trimming

Equipment	No. Req <sup>d</sup> . <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup> (lb/day)	PM <sub>10</sub> (lb/day)	PM <sub>2.5</sub> (lb/day)	CO <sub>2</sub> (lb/day)
Chainsaw	2	0.31	0.63	59.42	0.02	1.30	1.26	697.09
Haul Truck/Hauler	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	3	18.66	1.53	66.42	1.66	2.30	2.23	3040.07

Note: Footnotes for tables are on following page

- a) The SMAQMD 2004 guidance suggests a default equipment fleet for each activity, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.
- b) The SMAQMD 2004 reference lists emission factors for reactive organic gas (ROG). For the purposes of this worksheet ROG = VOC. The NONROAD model contains emissions factors for total HC and for VOC. The factors used here are the VOC factors.
- c) The NONROAD emission factors assume that the average fuel burned in nonroad trucks is 1100 ppm sulfur. Trucks that would be used for the Proposed Actions will all be fueled by highway grade diesel fuel which cannot exceed 500 ppm sulfur. These estimates therefore over-estimate SO<sub>2</sub> emissions by more than a factor of two.
- d) Typical equipment fleet for building construction was not itemized in SMAQMD 2004 guidance. The equipment list above was assumed based on SMAQMD 1994 guidance.

## PROJECT-SPECIFIC EMISSION FACTOR SUMMARY

Source	Equipment Multiplier*	Project-Specific Emission Factors (lb/day)						
		NO <sub>x</sub>	VOC	CO	SO <sub>2</sub> **	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Grading Equipment	11	458.053	28.347	172.809	37.943	28.001	27.161	54356.790
Tree Felling	9	351.863	15.696	162.039	27.823	14.633	14.184	39156.213
Tree Trimming	2	37.328	3.052	132.849	3.315	4.592	4.452	6080.131
Building Construction	1	39.396	3.130	17.382	3.116	2.829	2.744	4464.512
Air Compressor for Architectural Coating	1	3.574	0.373	1.565	0.251	0.309	0.300	359.773
Architectural Coating**			0.000					

\*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project.

\*\*Emission factor is from the evaporation of solvents during painting, per "Air Quality Thresholds of Significance", SMAQMD, 1994

Example: SMAQMD Emission Factor for Grading Equipment NO<sub>x</sub> = (Total Grading NO<sub>x</sub> per 10 acre)\*(Equipment Multiplier)

### Summary of Input Parameters

	Total Area (ft <sup>2</sup> )	Total Area (acres)	Total Days	
Grading:	4,742,813	108.88	6	(from "Grading" worksheet)
Tree Felling (removal)	4,046,724	92.90	102	
Tree Trimming	696,089	15.98	18	

NOTE: The 'Total Days' estimate for Tree Felling is based on 85% of the total project days (85% of tree management is for Tree Felling). The 'Total Days' estimate for Tree Trimming is based on 15% of the total days (15% of tree management is for Tree Trimming). The 'Total Days' estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day, which is a factor derived from the 2005 MEANS

Heavy Construction Cost Data, 19th Edition, for 'Asphaltic Concrete Pavement, Lots and Driveways - 6" stone base', which provides an estimate of square feet paved per day. There is also an estimate for 'Plain Cement Concrete Pavement', however the estimate for asphalt is used because it is more conservative.

The 'Total 'Days' estimate for demolition is calculated by dividing the total number of acres by 0.02 acres/day, which is a factor also derived from the 2005 MEANS reference. This is calculated by averaging the demolition estimates from 'Building Demolition - Small Buildings, Concrete', assuming a height of 30 feet for a two-story building; from 'Building Footings and Foundations Demolition - 6" Thick, Plain Concrete'; and from 'Demolish, Remove Pavement and Curb - Concrete to 6" thick, rod reinforced'. Paving is double-weighted since projects typically involve more paving demolition. The 'Total Days' estimate for building construction is assumed to be 230 days, unless project-specific data is known.

### Total Project Emissions by Activity (lbs)

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Grading Equipment	2,748.32	170.08	1,036.85	227.66	168.00	162.96	326,141
Tree Felling (removal)	35,889.99	1,600.94	16,527.99	2,837.99	1,492.55	1,446.77	3,993,934
Tree Trimming	671.90	54.93	2,391.28	59.67	82.65	80.14	109,442
<b>Total Emissions (lbs):</b>	<b>39,310.21</b>	<b>1,825.96</b>	<b>19,956.12</b>	<b>3,125.32</b>	<b>1,743.21</b>	<b>1,689.87</b>	<b>4,429,517</b>

### Results: Total Project Annual Emission Rates

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Total Project Emissions (lbs)	39,310.21	1,825.96	19,956.12	3,125.32	1,743.21	1,689.87	4,429,517
Total Project Emissions (tons)	19.655	0.913	9.978	1.563	0.872	0.845	2,214.758

## Fugitive Dust Emissions

### Fugitive Dust Emission Factors

	Emission Factor	Units	Source
Tree Management Activities Similar to heavy construction equipment	0.19	ton PM <sub>10</sub> /acre-month	MRI 1996; EPA 2001; EPA 2006

### PM<sub>2.5</sub> Emissions

PM <sub>2.5</sub> Multiplier	0.10	(10% of PM <sub>10</sub> emissions assumed to be PM <sub>2.5</sub> )	EPA 2001; EPA 2006
------------------------------	------	--	--------------------

### Control Efficiency

0.50	(assume 50% control efficiency for PM <sub>10</sub> and PM <sub>2.5</sub> emissions)	EPA 2001; EPA 2006
------	--	--------------------

### Project Assumptions

#### General Tree Management Activities (0.19 ton PM<sub>10</sub>/acre-month)

Duration of Project	6 months
Area	108.88 acres

	Project Emissions (tons/year)			
	PM <sub>10</sub> uncontrolled	PM <sub>10</sub> controlled	PM <sub>2.5</sub> uncontrolled	PM <sub>2.5</sub> controlled
Tree Management Activities	124.123	62.062	12.412	6.206
<b>Total</b>	<b>164.393</b>	<b>82.196</b>	<b>16.439</b>	<b>8.220</b>

## Construction Fugitive Dust Emission Factors

### General Construction Activities Emission Factor

**0.19 ton PM<sub>10</sub>/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM<sub>10</sub>/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM<sub>10</sub>/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM<sub>10</sub>/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM<sub>10</sub>/acre-month) and 75% of the average emission factor (0.11 ton PM<sub>10</sub>/acre-month). The 0.19 ton PM<sub>10</sub>/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM<sub>10</sub>/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended particulate (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District as well as the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM<sub>10</sub> and PM<sub>2.5</sub> in PM nonattainment areas.

### New Road Construction Emission Factor

**0.42 ton PM<sub>10</sub>/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM<sub>10</sub>/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM<sub>10</sub>/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

### PM<sub>2.5</sub> Multiplier

**0.10**

PM<sub>2.5</sub> emissions are estimated by applying a particle size multiplier of 0.10 to PM<sub>10</sub> emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

### Control Efficiency for PM<sub>10</sub> and PM<sub>2.5</sub>

**0.50**

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM<sub>10</sub> and PM<sub>2.5</sub> in PM nonattainment areas (EPA 2006). Wetting controls will be applied during project construction.

### References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.



## Grading Schedule

Estimate of time required to grade a specified area.

### Input Parameters

Construction area: 108.88 acres/yr (from Combustion Worksheet)  
Qty Equipment: 33.00 (calculated based on 3 pieces of equipment for every 10 acres)

### Assumptions

Terrain is mostly flat.  
No soil is hauled off-site or borrowed.  
200 hp bulldozers are used for site clearing.  
300 hp bulldozers are used for stripping, excavation, and backfill.

### Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day)	equip-days per acre	Acres/yr (project- specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	108.88	13.61
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	108.88	53.23
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	54.44	54.89
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	54.44	22.52
2315 310 5020	Compaction	Vibrating roller, 6" lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	108.88	38.19
TOTAL								182.44

### Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 182.44  
Qty Equipment: 33.00  
Grading days/yr: 5.53

## Haul Truck Emissions

Emissions from hauling excavation material and construction supplies are estimated in this spreadsheet.

Emission Estimation Method: United States Air Force (USAF) Institute for Environment, Safety and Occupational Health Risk Analysis (IERA) Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations (Revised December 2003).

### Assumptions:

Haul trucks carry 20 tons of trees per trip

The average distance from the project site to the materials source is 20 miles; therefore, a haul truck will travel 40 miles round trip.

Estimated number of trips required by haul trucks = total amount of material/15 tons per truck

Amount of material removed from management areas = 120 tons Assumes roughly 7.5 trees per ton, approximately 900 trees to be removed

Number of trucks required = 6 heavy duty diesel haul truck trips

Miles per trip = 40 miles

### Heavy Duty Diesel Vehicle (HDDV) Average Emission Factors (grams/mile)

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
HDDV	6.5	4.7	19.1	0.512	7.73	2.01	1645.605

Notes:

Emission factors for all pollutants except CO<sub>2</sub> are from USAF IERA 2003.

Emission factors for PM, PM<sub>10</sub>, SO<sub>x</sub> are from HDDV in Table 4-50 (USAF IERA 2003).

Emission factors for VOC, CO, and NO<sub>x</sub> are from Tables 4-41 through 4-43 for the 2010 calendar year, 2000 model year (USAF IERA 2003).

Diesel fuel produces 22.384 pounds of CO<sub>2</sub> per gallon.

It is assumed that the average HDDV has a fuel economy of 6.17 miles per gallon, Table 4-51 (USAF IERA 2003)

CO<sub>2</sub> emission factor = 22.384 lbs CO<sub>2</sub>/gallon diesel \* gallon diesel/6.17 miles \* 453.6 g/lb

### HDDV Haul Truck Emissions

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
lbs	3.439	2.487	10.106	0.271	4.090	1.063	870.690
tons	0.002	0.001	0.005	0.000	0.002	0.001	0.435

Example Calculation: NO<sub>x</sub> emissions (lbs) = 30 miles per trip \* 369 trips \* NO<sub>x</sub> emission factor (g/mile) \* lb/453.6 g

## Construction Commuter Emissions

Emissions from construction workers commuting to the job site are estimated in this spreadsheet.

Emission Estimation Method: Emission factors from the South Coast Air Quality Management District (SCAQMD) EMFAC 2007 (v 2.3) Model (on-road) were used. These emission factors are available online at <http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>.

### Assumptions:

Passenger vehicle emission factors for scenario year 2010 are used.

The average roundtrip commute for a construction worker = 30 miles  
 Number of construction days = 120 days  
 Number of construction workers (daily) = 15 people

### Passenger Vehicle Emission Factors for Year 2010 (lbs/mile)

NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
0.00091814	0.00091399	0.00826276	0.00001077	0.00008698	0.00005478	1.09568235

Source: South Coast Air Quality Management District. EMFAC 2007 (ver 2.3) On-Road Emissions Factors. Last updated April 24, 2008. Available online: <http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>. Accessed 27 May 2009.

### Notes:

The SMAQMD 2007 reference lists emission factors for reactive organic gas (ROG). For purposes of this worksheet ROG = VOC.

## Construction Commuter Emissions

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
lbs	49.580	49.355	446.189	0.582	4.697	2.958	59166.847
tons	0.025	0.025	0.223	0.000	0.002	0.001	29.583

Example Calculation: NO<sub>x</sub> emissions (lbs) = 60 miles/day \* NO<sub>x</sub> emission factor (lb/mile) \* number of construction days \* number of workers

San Diego Intrastate Air Quality Control Region

			All Emission Sources					
Row #	State	County	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC
1	GA	Butts, GA	9,114.41	1,231.10	2,870.27	685.2683	126.6956	1,199.84
2	GA	Carroll, GA	27,295.97	3,757.35	11,375.02	2,083.12	604.1451	4,612.97
3	GA	Clayton, GA	59,863.90	16,105.41	4,513.20	1,141.88	1,490.38	9,485.73
4	GA	Cobb, GA	129,676.30	20,872.04	17,572.82	3,891.68	25,971.63	22,492.09
5	GA	Coweta, GA	25,307.08	15,850.15	10,500.68	2,075.71	68,595.08	3,703.41
6	GA	DeKalb, GA	132,511.46	17,316.06	12,416.88	2,926.63	1,371.78	22,856.59
7	GA	Douglas, GA	23,328.84	3,368.05	5,193.05	996.0753	173.9675	3,968.38
8	GA	Fayette, GA	19,350.24	2,729.51	7,983.90	1,239.23	175.8185	3,554.22
9	GA	Fulton, GA	182,599.27	28,629.67	24,484.94	5,562.79	2,578.49	31,704.20
10	GA	Gwinnett, GA	150,817.04	18,568.94	18,018.88	3,616.20	1,293.55	24,505.72
11	GA	Heard, GA	7,280.65	15,092.75	5,982.21	2,337.30	74,976.72	1,167.22
12	GA	Henry, GA	33,452.83	7,582.01	10,952.18	1,897.88	416.3164	6,011.46
13	GA	Lamar, GA	7,011.66	656.1696	2,149.84	470.6513	36.2236	858.3836
14	GA	Meriwether, GA	13,447.99	1,480.73	4,746.49	1,207.68	133.6075	1,368.57
15	GA	Pike, GA	4,914.17	411.8592	2,469.13	466.836	18.1412	660.6564
16	GA	Rockdale, GA	15,978.74	2,482.53	7,498.46	1,258.05	441.3171	2,960.53
17	GA	Spalding, GA	14,691.69	1,827.58	6,284.41	992.6805	201.4526	2,861.86
18	GA	Troup, GA	25,732.40	2,961.23	6,680.02	1,280.22	220.8577	4,232.01
19	GA	Upson, GA	8,377.03	925.5352	3,766.71	745.2171	134.4665	1,897.29
Grand Total			890,752	161,849	165,459	34,875	178,961	150,101

SOURCE:

<http://neibrowser.epa.gov/eis-public-web/home.html>

USEPA National Emissions Inventory (NEI)